55th ASMS Conference on Mass Spectrometry and Allied Topics

June 3 - June 7, 2007
Indiana Convention Center
Indianapolis, Indiana

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Title information in the following sections appears as provided by authors.
The complete abstract database is available through the ASMS web page: http://www.asms.org

GENERAL INFORMATION

Welcome to the 55th ASMS Conference on Mass Spectrometry and Allied Topics. Conference program activities and exhibit booths are in the Indiana Convention Center. Corporate Member hospitality suites are located in the Marriott and Westin Hotels.

PROGRAM NOTE. The hospitality suite maps and the program pages are perforated for easy removal from this book. The perforated pages are 13, 14, 16, 17, 21 – 26.

WAKE UP COFFEE is available in the Indiana Convention Center, lobby level at 7:30 am, Monday through Thursday.

PLENARY SESSIONS. The opening program is 8:00 am on Monday. Plenary Sessions on Tuesday, Wednesday and Thursday are 4:45 pm. Plenary sessions are in Exhibit Hall D.

ORAL SESSIONS

Session A (MOA, TOA, WOA, ThOA), Exhibit Hall D
Session B (MOB, TOB, WOB, ThOB), Wabash Ballroom
Session C (MOC, TOC, WOC, ThOC), Room 120-124
Session D (MOD, TOD, WOD, ThOD), 500 Ballroom
Session E (MOE, TOE, WOE, ThOE), Sagamore 5-6-7
Session F (MOF, TOF, WOF, ThOF), Sagamore 3-4
Session G (MOG, TOG, WOG, ThOG), Sagamore 1-2

POSTERS AND EXHIBIT BOOTHS are in the Exhibit Hall. Exhibit Hall is open 7:30 am – 8:00 pm, Monday through Wednesday. The hall will close at 3:30 pm on Thursday.

REGISTRATION is open as follows: 10:00 am – 8:00 pm on Sunday, 7:30 am – 5:00 pm on Monday through Thursday.

CORPORATE HOSPITALITY SUITES. See page 10-14. Hospitality suites are open 6:30 – 11:00 pm, Monday through Wednesday. The suites are divided between the Marriott and Westin Hotels. The hotels are connected to the second level of the convention center via skywalk.

SUNDAY TUTORIAL LECTURES. The tutorial session begins at 5:00 pm, Sunday.

5:00 pm Why You Can't Patent Ions (or Can You?)
Michael R. Asam;
Fish & Richardson Attorneys at Law

5:45 pm Turning Mass Spectrometers into Chemical Reactors: Taking Full Advantage of Ion Chemistry; Scott Gronert;
Virginia Commonwealth University

WEB BROADCASTING OF SESSIONS. Tutorial lectures, plenary sessions, and oral sessions will be web cast. Your last name and the User ID on the back of your name badge must be entered to view presentations. All presentations will be available until July 9. After July 9, presentations will be available only with author's permission. Web casting of presentations does not constitute publication and in no way jeopardizes the rights of authors to publish material that has been presented. To access the presentations, go to www.asms.org.

INTERNET ACCESS. Free wireless access is provided in the Exhibit Hall.

ORAL PRESENTATIONS. Only LCD computer projectors will be used for oral sessions. The ASMS session computers will be running Windows XP and the most recent version of PowerPoint. **Presenters must go to the speaker room at least one day prior to their talks** to load presentations on the ASMS computers. The speaker room is Room 109. The room is open with a technician present:

Sunday: 1:00 - 7:00 pm
Monday through Wednesday: 7:30 am - 3:00 pm

POSTER SET-UP. Posters must be in place by 8:00 am on the day scheduled and removed 7:30 – 8:00 pm. Thursday posters must be removed by 3:30 pm. **Refer to the poster numbers in this final program for board assignments.** Authors are expected to supply pushpins to mount their posters. Poster titles begin on page 42.

POSTER SCHEDULE

Monday Posters
11:15 am – 3:30 pm: All poster authors should be present
11:45 am – 12:15 pm: Lunch break for odd-numbered posters
12:15 – 12:45 pm: Lunch break for even-numbered posters
Tuesday, Wednesday, Thursday Posters
10:15 am – 2:30 pm: All poster authors present
11:45 am – 12:15 pm: Lunch break for odd-numbered posters
12:15 – 12:45 pm: Lunch break for even-numbered posters

INTEREST GROUP MEETINGS. Interest Group meetings are scheduled during the lunch break, 12:45 – 2:00 pm. Schedule is on page 18.

WORKSHOPS. Workshops are scheduled 5:45 – 7:00 pm on Monday and Tuesday. See page 18 for schedule.

CONFERENCE PROCEEDINGS. The conference proceedings will be published on DVD after the conference. Manuscripts or pdf of PowerPoint presentations must be submitted through the ASMS web site prior to the conference.

WELCOME MIXER, SUNDAY, 7:00 - 9:00 PM, *Exhibit Hall.* Conference name badge is required.

CONFERENCE FINALE, 5:30 – 8:00 PM, THURSDAY

The conference will conclude on Thursday evening with a gala reception at the Westin Hotel. Red dot on your name badge is required. Cost is $20. Ticket sales close at 12 noon on Monday. The evening will include:

- **Tiki Bar** of tropical drinks and steel drums.
- **Wine Bar** complete with a variety of wines and hors d'oeuvres
- The music of **Xanadu**
- **Brew Bar** sponsored by **Agilent Technologies** includes sports TV, a dance floor and caricaturists, along with sliders, hotdogs, and fresh popcorn
- **Martini Bar** sponsored by **Thermo Scientific** with flair bartenders, carved roast beef and whipped potato "martinis."
- **Bubble Bar** for a champagne toast and dessert along with a jazz trio

GUEST REGISTRATION. Guest registration includes Sunday evening mixer and continental breakfast and welcome on Monday, 9:00 – 10:00 am in Room 108, lobby level. Cost for guest registration: $20.

LUNCHES. Refreshments and lunches may be purchased in the Exhibit Hall and the food court of the convention center.

EMPLOYMENT CENTER. The Employment Center is located in the Exhibit Hall and is open to all conference registrants. Candidates and employers may register in the center beginning at 5:00 pm on Sunday. Enter through Exhibit Hall A. You must supply at least 20 copies of your resumé. The center is open Monday through Wednesday, 8:30 am to 5:00 pm, and Thursday, 8:30 am to 1:00 pm. Employers and candidates may come to the center to search the database of candidates and positions. There are a limited number of spaces available for conducting interviews. Interview spaces must be reserved one day in advance.

GENERAL INFORMATION

CONFERENCE HOTELS

Hotel	Address	
Amerisuites	5500 N. Bradbury	317-227-0950
Candlewood Suites	1152 N. White River Pwy	317-536-7700
Canterbury	123 S. Illinois St	317-634-3000
Columbia Club	121 Monument Circle	
Courtyard Capitol	320 N. Senate	317-684-7733
Courtyard Downtown	501 W. Washington St	317-635-4443
Conrad	50 W. Washington St.	317-713-5000
Crowne Plaza	123 W. Louisiana St.	317-631-2221
Embassy Suites	110 W. Washington St.	317-236-1800
Hampton Inn	105 S. Meridian St.	317-261-1200
Hilton	120 W. Market St.	317-972-0600
Hilton Garden Inn	10 E. Market St.	317-955-9700
Holiday Inn Express	410 S. Missouri St.	317-822-6400
Homewood Suites	211 S. Meridian	317-636-7992
Hyatt	One S. Capitol Ave.	317-632-1234
Marriott	350 W. Maryland St.	317-822-3500
Omni	40 W. Jackson Pl.	317-634-6664
Radisson Downtown	31 W. Ohio St.	317-635-2000
Radisson Airport	2500 S. High School	317-244-3361
University Place	850 W. Michigan St.	317-269-9000
Westin	50 S. Capitol Ave.	317-262-8100

SHUTTLE BUS SERVICE TO AIRPORT HOTELS is provided during the following hours:

- Sunday: 3:00 to 8:30 pm
- Monday – Wednesday: 7:00 to 9:00 am; 5:00 – 10:00 pm
- Thursday: 7:00 to 9:00 am; 5:00 – 8:30 pm

CONFERENCE REGULATIONS

- **Name badges** are required for all conference sessions, including the exhibit hall and the employment center.
- **No smoking** is permitted in the convention center.
- **Cell phones** must be **turned off** in oral sessions.
- **No photography or recording** in any session, including posters.
- **The placement of advertising** in the meeting area is strictly limited to Corporate Members. There are poster boards and tables in the Exhibit Hall for corporate member notices and literature. No signs on easels are permitted except at doors to hospitality suite rooms.
- **No hardware, terminals, accessories, or any items** for sale may be displayed in any area of the conference, except in corporate exhibit booths and hospitality suites.
- There may be **no organized activities** (even off-site) other than those approved by ASMS during the conference week (5:00 pm on Sunday through 9:00 pm on Thursday).
- **Corporate or institutional logos** may appear only in the title of posters in technical sessions. Logos appearing anywhere else in a poster will be removed or covered by ASMS.

MEDIA EVENTS

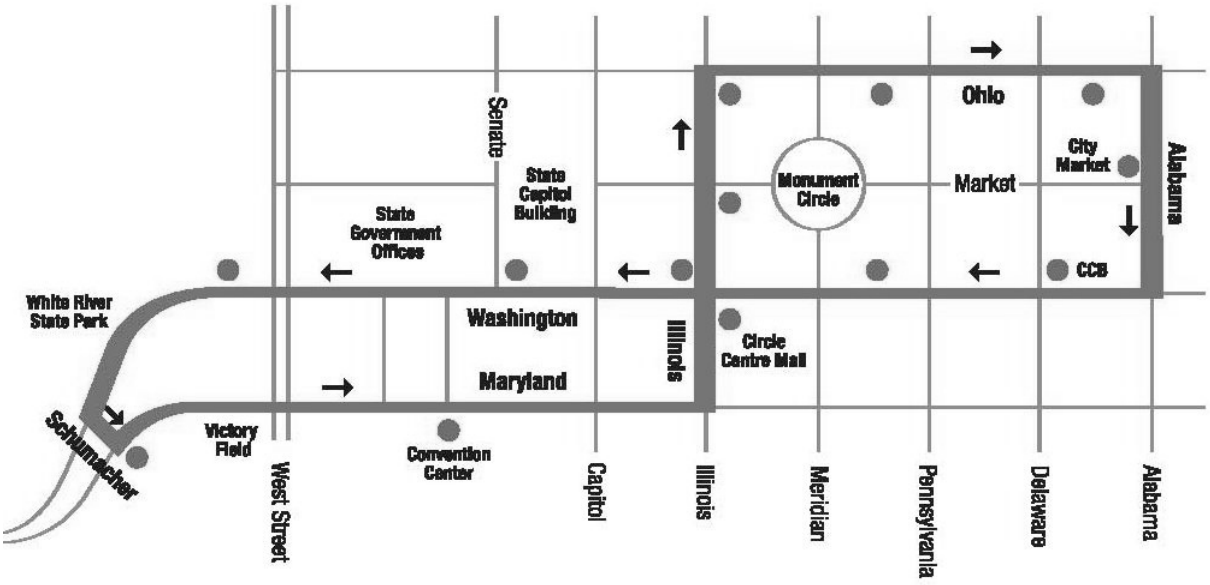
Corporate media events are scheduled on **Monday**. Members of the press and financial institutions are welcome.

Shimadzu Biotech	9:45 - 10:45 am	Room 104
Thermo Scientific	11:00 am - 12:00 noon	Room 103
ITT	2:15 - 3:15 pm	Room 103
Waters Corporation	4:30 - 5:30 pm	Room 103

ASMS

ASMS
2019 Galisteo Street, Building I-1
Santa Fe, NM 87505
Phone: (505) 989-4517 Fax: (505) 989-1073
E-mail: office@asms.org

INDYGO "BLUE LINE" SHUTTLE ROUTE extends from the White River State Park to the City Market and runs daily every 10 minutes from 10:00 am to 10:00 pm. Dots on the map below indicate stops. The fare is 25 cents.



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Ion Trap MS	Gavin E. Reid *Michigan State University*
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Pharmaceuticals	David Peake *Eli Lilly Company*
Polymeric Materials	Mark A. Arnould *Xerox*
TOF-MS	Matt Lasater *Thermo Scientific*
Young Mass Spectrometrists	Steven Patrie *University of Chicago*

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AWARD FOR A DISTINGUISHED CONTRIBUTION IN MASS SPECTROMETRY

Award Lecture: 4:45 pm, Tuesday

2007 Recipient: Jesse L. (Jack) Beauchamp

"Ion Cyclotron Resonance for Studies of Ion-Molecule Reactions"

The 2007 award is presented to Professor Jesse Lee (Jack) Beauchamp for his seminal contributions to the development of ion cyclotron resonance as a tool for studies of gas phase ion chemistry. While a graduate student during the period 1964-1967, and even before the first ICR instrument was operational, Professor Beauchamp published a complete analysis of the phenomenon of ion cyclotron resonance. This theoretical analysis provided the inspiration for the first ion cyclotron double resonance experiment, which became an important technique for studying ion-molecule reactions in the gas phase. In a highly-cited 1971 review titled "Ion Cyclotron Resonance Spectroscopy," Professor Beauchamp describes the technique's utility for determining rate constants, acidities and basicities in the absence of complications due to solvation, and reaction mechanisms of organic and inorganic ions. These studies have evolved in numerous laboratories around the world and remain a major activity of many research groups. Professor Beauchamp is presently employing ion cyclotron resonance to investigate biochemical problems, including the chemical sequencing of peptides and nucleic acids and determining the properties, reactions and structures of biologically significant molecules.

THE BIEMANN MEDAL

Award Lecture: 4:45 pm, Wednesday

2007 Recipient: Roman A. Zubarev

"Electron Capture Dissociation for MS/MS"

The 2007 Medal is presented to Roman A. Zubarev for his leadership in developing electron capture dissociation for MS/MS. Dr. Zubarev showed that ECD preferentially breaks the N-C peptide linkage in underivatized peptides. Cleavage induced by ECD is essentially random along the peptide chain enabling more complete sequencing based on "c" and "z" ions. This dissociation method contrasts with collisional and multiphoton dissocations, which lead to breakage of the weakest bonds. Dr. Zubarev also demonstrated that ECD achieves peptide cleavage without loss of common post-translational modifications, making it the method of choice for determining the nature and sites of such modifications. Since the initial publication in 1998, there has been an exponential rate of growth in research in the ECD technique. Dr. Zubarev has extended the range of ECD applications from FT-ICR mass spectrometers to quadruple ion traps. He continues to investigate related techniques in the newly established area of ion-electron chemistry, including "hot ECD" which can distinguish leucine from isoleucine, electron detachment dissociation that cleaves the C-CO bond in negative ion mode, and electronic excitation dissociation that can increase cation charge.

CALL FOR NOMINATIONS FOR 2008

Award for a Distinguished Contribution in Mass Spectrometry. The person nominated should have made a contribution that has had a significant impact on the fundamental understanding and/or practice of mass spectrometry. Eligibility is not restricted to members of ASMS. The award is announced at the ASMS Annual Conference with the presentation of a $10,000 cash award and a recognition plaque.

Name of person nominated _____

Affiliation _____

Address _____

Nominee's email: _____

Your name & email: _____

Supporting letters (one page) will be provided by: _____

_____

The Biemann Medal recognizes a significant achievement in basic or applied mass spectrometry made by an individual early in his or her career. Nominees are expected to be 40 years old or younger at the nomination deadline. The award is presented at the ASMS Annual Conference with the presentation of the Biemann Medal and a $5,000 cash award.

This individual is nominated for:

- ☐ Distinguished Contribution in Mass Spectrometry
- ☐ Biemann Medal Age of Nominee _____

Please enclose the following:

1. **Short description of the achievement** (1-2 paragraphs);
2. **A list of the nominee's publications** pertaining to this award and;
3. **A copy of no more than two of the nominee's publications** relevant to the subject.

Send completed nomination form and enclosures for receipt by November 30 to:

ASMS Awards
2019 Galisteo Street, Building I-1
Santa Fe, NM 87505
office@asms.org

2007 RESEARCH AWARDS

Sponsored by
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University of Toronto

Sponsored by
Applied Biosystems/MDS Sciex

Joshua J. Coon
University of Wisconsin

Sponsored by
Waters Corporation

Gavin E. Reid
Michigan State University

CALL FOR 2008 RESEARCH AWARD PROPOSALS

OBJECTIVE To promote academic research by young scientists in mass spectrometry.

ELIGIBILITY Open to academic scientists within four years of joining the tenure track faculty or equivalent in a North American university. Applicants may not have previously received an award under this program.

APPLICATION Applicants should submit **SEVEN** collated sets of the following

1. One-page fiscal proposal and justification
2. List of current research support
3. Three-page proposal, including references, figures, etc.
4. *Curriculum vitae*
5. Two letters of recommendation (may be sent directly to ASMS)

DEADLINE Application materials, including letters of recommendation, must be received in the ASMS office by November 30. Send to:

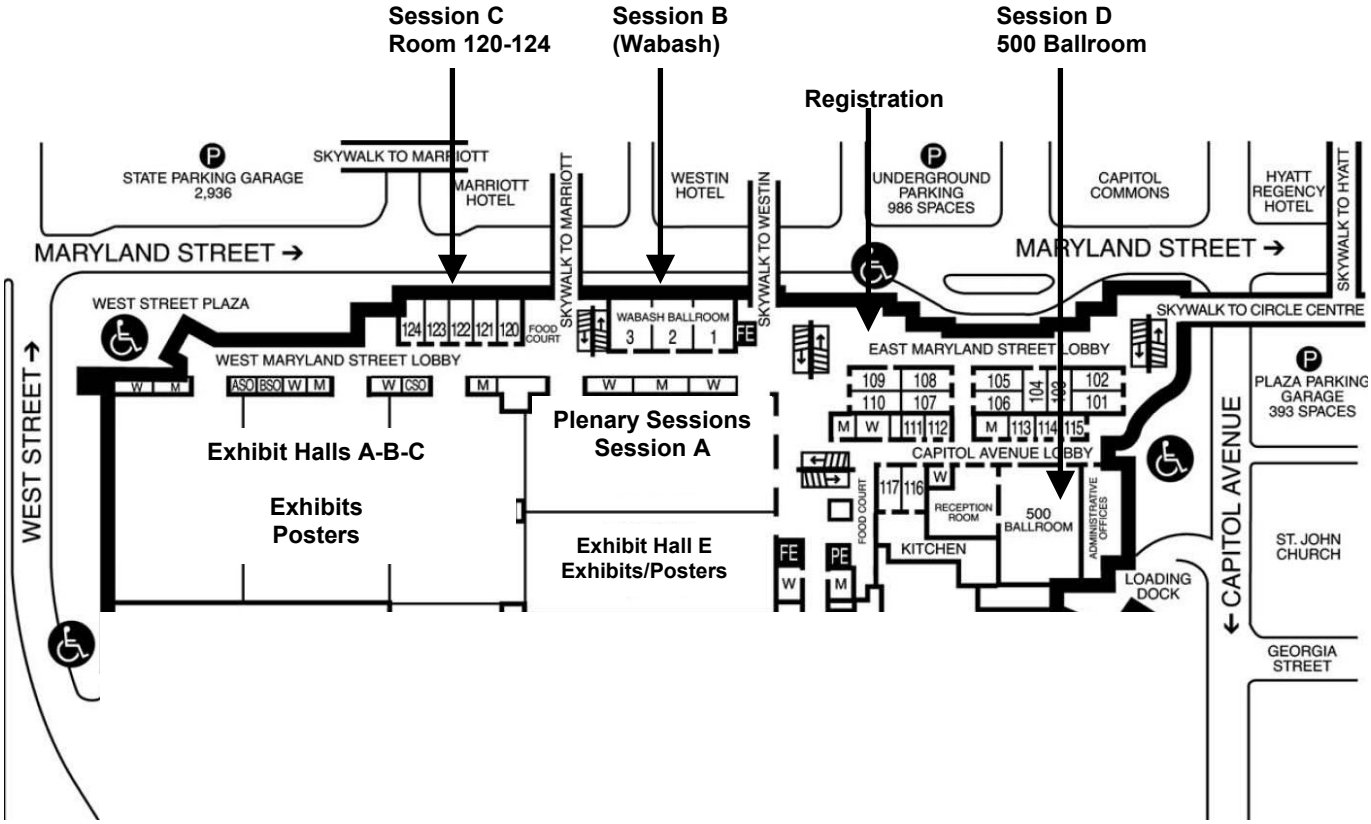
ASMS, 2019 Galisteo Street, Building I-1, Santa Fe, NM 87505

FISCAL The awards of $25,000 each will be made to a university in the name of the selected individual and for the researcher's exclusive use. In accepting this award, the institution will agree not to charge overhead on the funds.

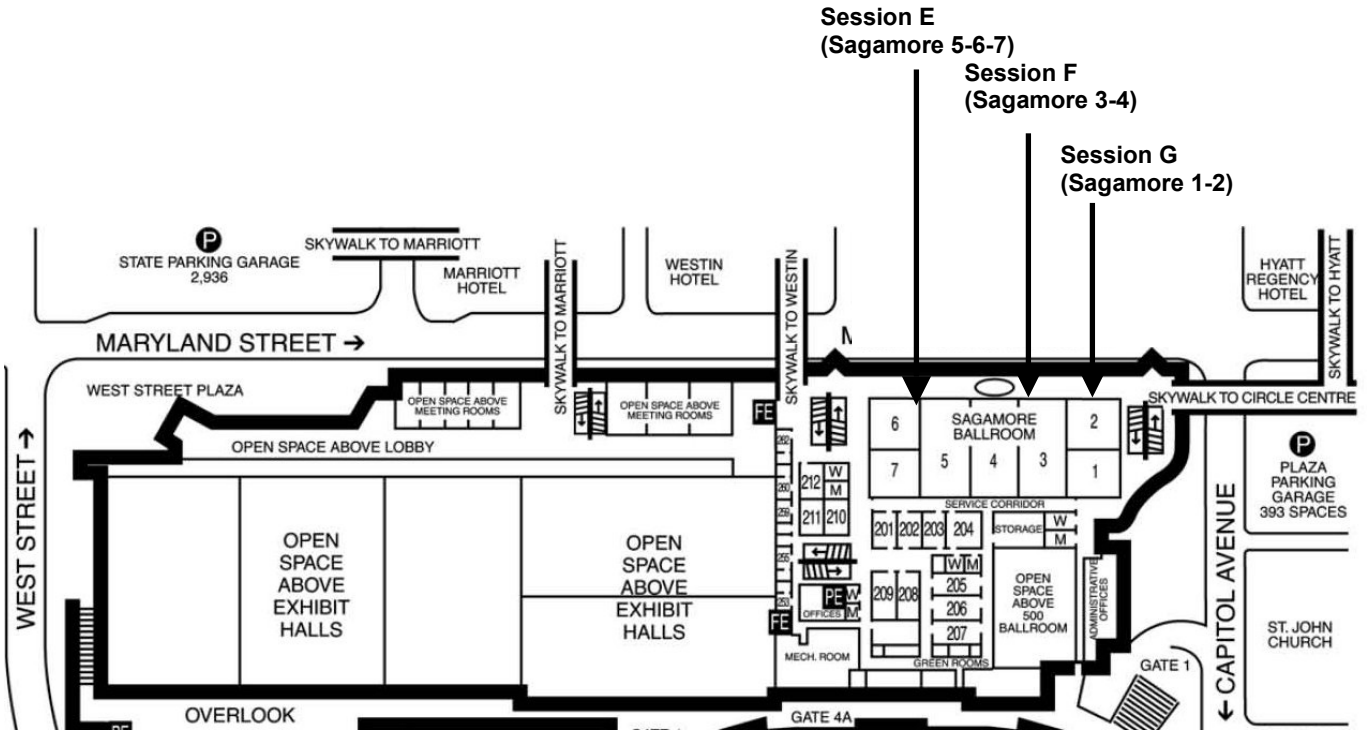
INFORMATION Contact ASMS. Telephone: (505) 989-4517 ● Fax: (505) 989-1073 ● office@asms.org

CONVENTION CENTER FLOOR PLAN

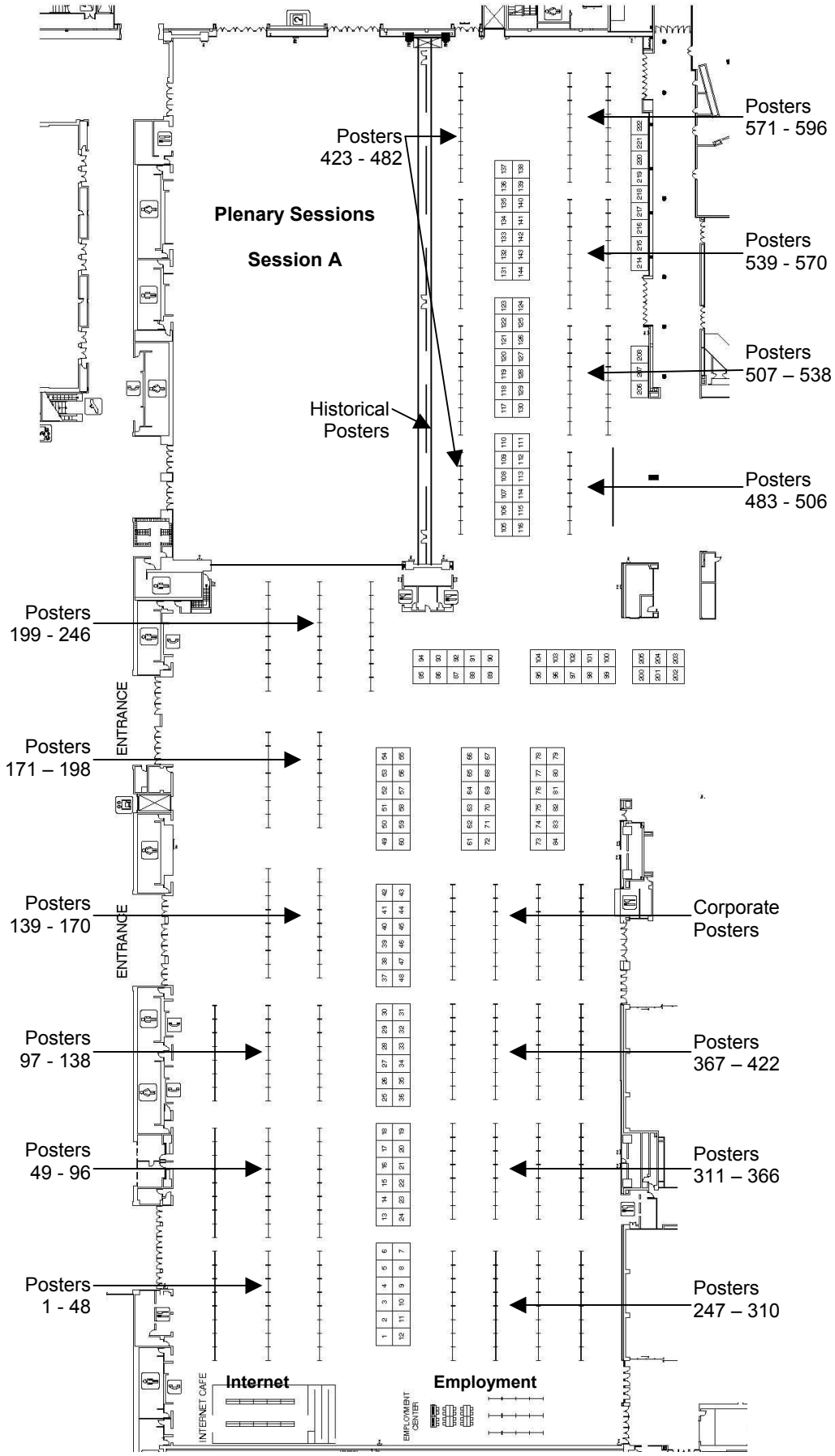
LOBBY LEVEL



LEVEL TWO



POSTERS AND EXHIBITS



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AAAS/ Science	125		
AAPS	38		
Advanced Chemistry Development	36		Cabinet
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Analogix, Inc.	33		
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ASMS CORPORATE MEMBERS

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Parker Hannifin	219		
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PEAK Scientific Instruments	113		
PerkinElmer LAS	106/Poster		
Pfeiffer Vacuum	74/Poster		
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Phytronix Technologies	61		
Picometrics	200		
Precision Instruments	64/Poster		
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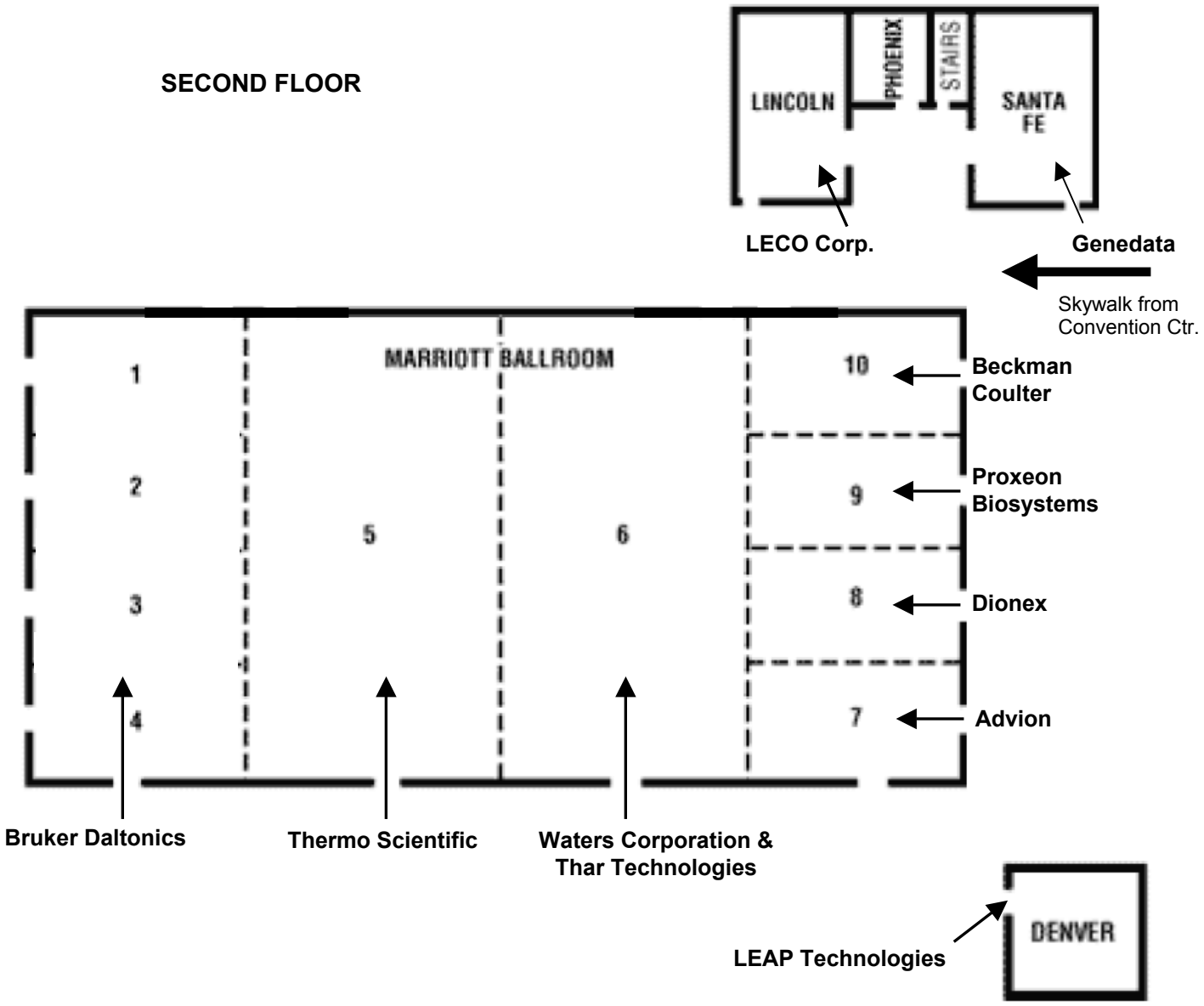
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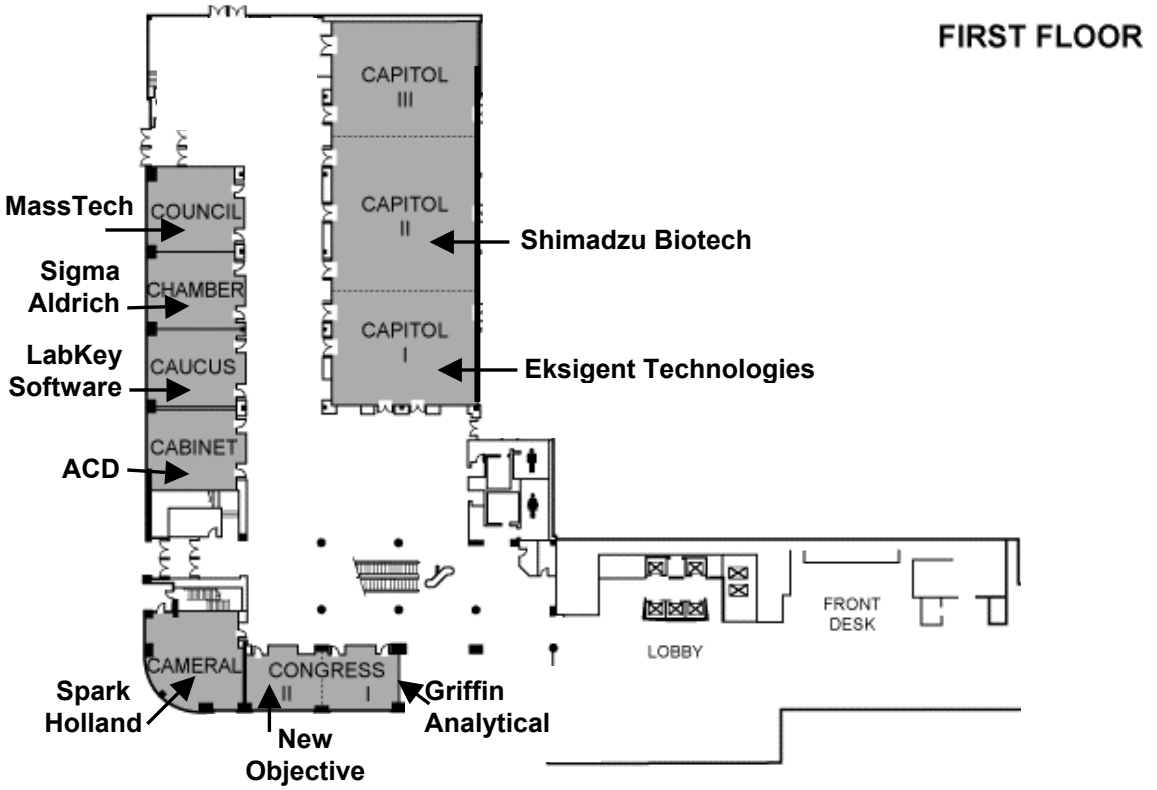
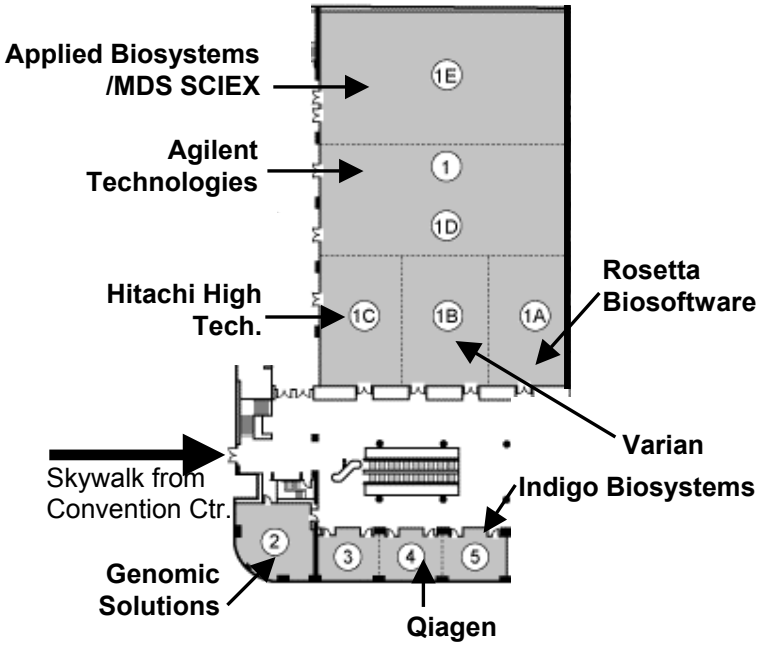
WESTIN HOTEL HOSPITALITY SUITES





1. GRAND BALLROOM
   1A. GRAND 1
   1B. GRAND 2
   1C. GRAND 3
   1D. GRAND 4
   1E. GRAND 5
   1F. GRAND FOYER 1 - 3
   1G. GRAND FOYER 4
2. HOUSE
3. SENATE 3
4. SENATE 2
5. SENATE 1

SECOND FLOOR

PROGRAM ACKNOWLEDGEMENTS

Gary L. Glish, *Vice President for Programs*

STUDENT ASSISTANTS

Graduate students are assisting with all aspects of the conference, including registration, oral and poster sessions, and the employment center. The students each receive a stipend to assist with their conference expenses. Elsevier Science has generously underwritten the stipends.

PROGRAM COMMITTEE

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Dave Black
Kevin Blackburn
Mark Bolgar
Dave Burinsky
Ileana Cristea
Matt Crowe
Connell Cunningham
Allison Danell
Ryan Danell
Leesa Deterding
Adam Hawkridge
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Bethanne Warrack
Yinsheng Wang
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Jon Williams
Tracie Williams
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Nate Yates
Al Yergey

WORKSHOP AND INTEREST GROUP MEETING ORGANIZERS

Bradlet Ackermenn
Mehran Alaee
Mark A. Arnould
Ben Bolanos
Edward Castellana
Donald H. Chace
Anthony Craig
Brian Eckenrode
John Engen
Michael A. Freitas
Russell Grant
Herbert H. Hill
Gérard Hopfgartner
Jonathan L. Josephs
Ryan Julian
Viswanatham Katta
Grace O'Maille
Kermit Murray
Steven Patrie
David Peake
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Ragulan Ramanathan
Gavin E. Reid
Ryan P. Rodgers
Indarpal Singh
Dennis Swijter
Yury O. Tsybin
Jeffrey L. Whitney

CONFERENCE PROGRAM OVERVIEW

SAT	9:00 am - 4:30 pm	***SHORT COURSES***
	2:00 - 5:00 pm	***REGISTRATION***

SUNDAY	9:00 am - 4:30 pm	***SHORT COURSES***
	10:00 am - 8:00 pm	***REGISTRATION***
	5:00 - 6:30 pm	***TUTORIAL LECTURES;*** *Exhibit Hall D* • Why You Can't Patent Ions (or Can You?) **Michael R. Asam**; *Fish & Richardson Attorneys at Law* • Turning Mass Spectrometers into Chemical Reactors: Taking Full Advantage of Ion Chemistry; **Scott Gronert;** *Virginia Commonwealth University*
	7:00 - 9:00 pm	***RECEPTION IN THE EXHIBIT HALL***

MONDAY	7:30 - 8:00 am	***WAKE-UP COFFEE***
	8:00 - 9:00 am	***OPENING and PLENARY LECTURE:*** **Eugenie C. Scott;** *National Center for Science Education* Lessons from the Dover Trial: Science, Culture, and the Law *Exhibit Hall D*
	9:15 - 11:15 am	***ORAL SESSIONS*** • MOA: Proteins: MS Based Quantitation; *Exhibit Hall D* • MOB: Determining Less Common PTMs by Mass Spectrometry; *Wabash Ballroom, lobby level* • MOC: Lipid Mass Spectrometry; *Room 120-124, lobby level* • MOD: Increasing MS Throughput in Pharmaceutical Bioanalysis; *500 Ballroom, lobby level* • MOE: ESI in the Year of John Fenn's 90th Birthday; *Sagamore 5-6-7, level two* • MOF: Developments in Imaging Mass Spectrometry; *Sagamore 3-4, level two* • MOG: Using Mass Spectrometry to Study the Role of Metal Ions in Biology; *Sagamore 1-2, level two*
	11:15 am - 3:30 pm	***POSTER SESSION AND EXHIBITS***
	12:45 – 2:00 pm	***INTEREST GROUP MEETINGS.*** See schedule on page 18.
	3:30 - 5:30 pm	***ORAL SESSIONS*** • MOA: Proteins: MS Based Quantitation; *Exhibit Hall D* • MOB: Characterizing Cross-Linked Proteins with Mass Spectrometry; *Wabash Ballroom, lobby level* • MOC: Golden Era of Environmental Mass Spectrometry; *Room 120-124, lobby level* • MOD: Endogenous Metabolite Profiling; *500 Ballroom, lobby level* • MOE: Molecular Recognition and Supramolecular Gas Phase Ion Chemistry; *Sagamore 5-6-7* • MOF: Developments in Ion Trap Mass Spectrometry; *Sagamore 3-4, level two* • MOG: Challenges in Polymer Mass Spectrometric Analysis; *Sagamore 1-2, level two*
	5:45 - 7:00 pm	***WORKSHOPS.*** See schedule on page 18.

TUESDAY	7:30 - 8:15 am	***WAKE-UP COFFEE***
	8:15 – 10:15 am	***ORAL SESSIONS*** • TOA: MS Determination of Biomarkers for Drug Safety and Efficacy, *Exhibit Hall D* • TOB: ETD v. ECD; *Wabash Ballroom, lobby level* • TOC: Mass Spectrometry Analysis of DNA Adducts; *Room 120-124, lobby level* • TOD: Protein Protein Interactions; *500 Ballroom, lobby level* • TOE: LC-MALDI Mass Spectrometry; *Sagamore 5-6-7, level two* • TOF: Developments in TOF Mass Spectrometry Instrumentation; *Sagamore 3-4, level two* • TOG: Hydrocarbon Analysis via Mass Spectrometry; *Sagamore 1-2, level two*
	10:15 am - 2:30 pm	***POSTER SESSION AND EXHIBITS***
	12:45 – 2:00 pm	***INTEREST GROUP MEETINGS.*** See schedule on page 18.
	2:30 – 4:30 pm	***ORAL SESSIONS*** • TOA: Dynamic Range in Mass Spectrometry-Based Proteomics Measurements, *Exhibit Hall D* • TOB: Mass Spectrometry Evaluation of Biomarkers; *Wabash Ballroom, lobby level* • TOC: Mass Spectrometry Imaging—Small Molecules; *Room 120-124, lobby level* • TOD: Hyphenated Mass Spectrometry Techniques in Metabolite Analysis; *500 Ballroom* • TOE: Ion Trap Applications; *Sagamore 5-6-7, level two* • TOF: Ambient Ionization Mass Spectrometry; *Sagamore 3-4, level two* • TOG: Mass Spectrometry and Homeland Security; *Sagamore 1-2, level two*
	4:45 - 5:30 pm	***AWARD LECTURE:*** **Recipient of the Award for a Distinguished Contribution in Mass Spectrometry;** *Exhibit Hall D*
	5:45 - 7:00 pm	***WORKSHOPS.*** See schedule on page 18.

CONFERENCE PROGRAM OVERVIEW

WEDNESDAY	7:30 - 8:15 am	***WAKE-UP COFFEE***
	8:15 - 10:15 am	***ORAL SESSIONS*** • WOA: Top Down 2007: Tandem Mass Spectrometry Above 5 kDa; *Exhibit Hall D* • WOB: Carbohydrate Structural Analysis: MS^n vs. ECD/EDD; *Wabash Ballroom, lobby level* • WOC: MS Characterization of Biomolecule 3D Structure; *Room 120-124, lobby level* • WOD: Metabolite Identification using Mass Spectrometry; *500 Ballroom, lobby level* • WOE: ESI of Small Molecules; *Sagamore 5-6-7, level two* • WOF: Portable Mass Spectrometry Instruments; *Sagamore 3-4, level two* • WOG: Metal Ion Activated Dissociation; *Sagamore 1-2, level two*
	10:15 am - 2:30 pm	***POSTER SESSION AND EXHIBITS***
	12:45 – 2:00 pm	***INTEREST GROUP MEETING and WORSHOP.*** See schedule on page 18.
	2:30 - 4:30 pm	***ORAL SESSIONS*** • WOA: Discovering Peptides and Proteins as Biomarkers; *Exhibit Hall D* • WOB: Metabolite Identification: Beyond Drug Discovery; *Wabash Ballroom, lobby level* • WOC: Characterizing Biopolymer Conformations and Dynamics; *Room 120-124, lobby level* • WOD: Mass Spectrometry Characterization of Membrane Proteins; *500 Ballroom, lobby level* • WOE: Peptide Ion Fragmentation Mechanisms: CID and ECD *Sagamore 5-6-7, level two* • WOF: Novel Mass Spectrometry Instrumentation; *Sagamore 3-4, level two* • WOG: Mass Spectrometry in Elemental & Metallomic Analyses; *Sagamore 1-2, level two*
	4:45 - 5:30 pm	***AWARD LECTURE:*** **Recipient of the Biemann Medal**
	5:30 - 6:00 pm	***ASMS BUSINESS MEETING;*** *Exhibit Hall D* **Wine, Beer, Raffle (nano I-Pod, noise dampening headphones, mini digital camera)**

THURSDAY	7:30 - 8:15 am	***WAKE UP COFFEE***
	8:15 - 10:15 am	***ORAL SESSIONS*** • ThOA: MS Strategies in the Determination of Phosphorylation Sites; *Exhibit Hall D* • ThOB: New Advances in Clinical MS; *Wabash Ballroom, lobby level* • ThOC: Noncovalent Interactions; *Room 120-124, lobby leve*l • ThOD: Analysis of Reactive Metabolites by Mass Spectrometry; *500 Ballroom, lobby level* • ThOE: Ion Mobility Spectrometry: New Developments in Bioanalytical Applications; *Sagamore 5-6-7* • ThOF: FTMS Instrumentation; *Sagamore 3-4, level two* • ThOG: Characterizing Emerging Environmental Contaminants with MS; *Sagamore 1-2, level two*
	10:15 am - 2:30 pm	***POSTER SESSION AND EXHIBITS***
	2:30 - 4:30 pm	***ORAL SESSIONS*** • ThOA: MS in the Determination of Cellular Pathways; *Exhibit Hall D* • ThOB: Bioinformatic Advances for Mass Spectrometry; *Wabash Ballroom, lobby level* • ThOC: Clinical Assays with Mass Spectrometry; *Room 120-124, lobby level* • ThOD: Profiling Drug Metabolites by Mass Spectrometry; *500 Ballroom, lobby level* • ThOE: Mass Spectrometry of Oxidized Proteins; *Sagamore 5-6-7, level two* • ThOF: Ion Mobility Instrumentation; *Sagamore 3-4, level two* • ThOG: Ion Structures Determined by Mass Spectrometry; *Sagamore 1-2, level two*
	4:45 - 5:30 pm	***PLENARY LECTURE:*** **Samuel Gandy,** *Farber Institute for Neurosciences* Regulation of Sorting and Processing of the Alzheimer's Amyloid-Beta Precursor Protein *Exhibit Hall D*
	5:30 - 8:00 pm	***GALA RECEPTION:*** *Westin Hotel*

INTEREST GROUP MEETINGS

Interest Group meetings are informal and open to all.

MONDAY 12:45 – 2:00 pm	TUESDAY 12:45 – 2:00 pm	WEDNESDAY 12:45 – 2:00 pm
Biological Macromolecules Interest Group Meeting Viswanatham Katta, presiding *Room 105, lobby level*	**Forensics Interest Group Meeting** Brian Eckenrode, presiding *Room 105, lobby level*	**Clinical Chemistry Interest Group Meeting** Donald H. Chace, presiding *Room 105, lobby level*
Young Mass Spectrometrists Interest Group Meeting: Perspectives on Mass Spectrometry in Industry Steven Patrie, presiding *Room 107-108, lobby level*	**Ion Mobility Interest Group Meeting** Herbert H. Hill, presiding *Room 104, lobby level*	**Special Workshop for JASMS Authors and Reviewers** Michael Gross, presiding *Room 104, lobby level*
Polymeric Materials Interest Group Meeting; Mark A. Arnould, presiding *Room 116, lobby level*	**Fundamentals Interest Group Meeting** J. C. Poutsma, presiding *Room 116, lobby level*	
FTMS Interest Group Meeting Orbitrap vs High Field ICR FTMS: Top-Down Challenges, ECD and ETD Yury O. Tsybin and Michael A. Freitas, presiding; *Room 101-102, lobby level*	**Flavors, Fragrance and Foodstuff Interest Group Meeting** Indarpal Singh and Dennis Swijter, presiding; *Room 101-102, lobby level*	
Analytical Lab Managers Interest Group Meeting; Amy Harms, presiding *Room 104, lobby level*	**Hydrocarbon and Chemical Process Interest Group Meeting** Ryan Rodgers, presiding; *Room 103*	

WORKSHOPS

Workshops are organized on topics of special interest with a focus on new technology.
There is no additional charge for workshops – they are open to all as a forum for discussion.

MONDAY 5:45 – 7:00 pm	TUESDAY 5:45 – 7:00 pm
Does LC Still Match the Improvements Made in Mass Spectrometry? Arranged by LC/MS Interest Group. Gérard Hopfgartner, presiding *Wabash, lobby level*	**The Pros and Cons of MS Outsourcing Strategies in the Pharmaceutical Industry.** Arranged by Pharmaceuticals Interest Group. David Peake and Bradley Ackermann, presiding *Wabash, lobby level*
Driving Decisions with ADME Screening. Arranged by Drug Metabolism Interest Group Ragu Ramanathan and Jonathan Josephs, presiding *Room 120-124, lobby level*	**Back to the Future: The Ion Trap MS as a Versatile Ion Storage and Manipulation Device.** Arranged by Ion Trap MS Interest Group. Gavin E. Reid, presiding *Room 120-124, lobby level*
LC/MS Library for Environmental Contaminants. Arranged by Environmental Interest Group Mehran Alaee, presiding; *500 Ballroom, lobby level*	**Dealing with the Data: Chekmometrics and Data Visualization Approaches.** Arranged by Computer Applications Interest Group. Jeffrey Whitney, presiding; *500 Ballroom, lobby level*
Opportunity to Get Answers to Your Questions about Prosecuting Patents and Creating IP Value. Anthony Craig, presiding *Sagamore 5-6-7, level two*	**Challenges in Theoretical and Computational Gas-Phase Ion Chemistry.** Arranged by Fundamentals Interest Group J. C. Poutsma and Ryan Julian, presiding *Sagamore 5-6-7, level two*
Ion Mobility Spectrometry: TOF, RF or TW. Arranged by Ion Mobility Interest Group. Herbert H. Hill, presiding *Sagamore 3-4, level two*	**Tips and Tricks in Hydrogen Exchange and Covalent Labeling.** Arranged by H/D Exchange Interest Group. John Engen, presiding; *Sagamore 3-4, level two*
IR Lasers for MALDI. Kermit Murray, presiding *Room 105-106, lobby level*	**Considerations for Utilizing Mass Spectrometry in Clinical Laboratory Practice.** Arranged by Clinical Chemistry Interest Group. Donald A. Chace and Russell Grant, presiding *Sagamore 1-2, level two*
Challenges in Forensic Analysis. Arranged by Forensics Interest Group. Brian Eckenrode, presiding; *Sagamore 1-2, level two*	**Nanomaterials in MS.** Edward T. Castellana, presiding *Room 105-106, lobby level*
	Metabolomics: Technologies and Challenges. Arranged by Metabolomics Interest Group. Grace O'Maille and Ben Bolanos, presiding; *Room 104, lobby level*

MONDAY POSTER TOPICS

7:30 – 8:00 am ..... Set up Monday posters (page 42)
11:15 – 3:30 pm ..... All Monday poster authors present
11:45 am – 12:15 pm ..... Lunch break for odd-numbered posters
12:15 – 12:45 pm ..... Lunch break for even-numbered posters
7:30 – 8:00 pm ..... Remove all Monday posters
Please do not remove posters early.

TUESDAY POSTER TOPICS

7:30 – 8:00 am ..... Set up Tuesday posters (Page 69)
10:15 am – 2:30 pm ..... All Tuesday poster authors present
11:45 am – 12:15 pm ..... Lunch break for odd-numbered posters
12:15 – 12:45 pm ..... Lunch break for even-numbered posters
7:30 – 8:00 pm ..... Remove all Tuesday posters
Please do not remove posters early.

WEDNESDAY POSTER TOPICS

7:30 – 8:00 am.....Set up Wednesday posters (Page 95)
10:15 am – 2:30 pm..... All Wednesday poster authors present
11:45 am – 12:15 pm.....Lunch break for odd-numbered posters
12:15 – 12:45 pm ..... Lunch break for even-numbered posters
7:30 – 8:00 pm .....Remove all Wednesday posters
Please do not remove posters early.

THURSDAY POSTER TOPICS

7:30 – 8:00 am ..... Set up Thursday posters (Page 121)
10:15 am – 2:30 pm ..... All Thursday poster authors present
11:45 am – 12:15 pm ..... Lunch break for odd-numbered posters
12:15 – 12:45 pm .....Lunch break for even-numbered posters
3:30 pm ..... Remove all Thursday posters
Please do not remove posters early.

SUNDAY, JUNE 3

5:00 – 6:30 pm
TUTORIAL LECTURES
Exhibit Hall D, lobby level

5:00 pm **Why You Can't Patent Ions (or Can You?)**
Michael R. Asam;
Fish & Richardson Attorneys at Law

5:45 pm **Turning Mass Spectrometers into Chemical Reactors: Taking Full Advantage of Ion Chemistry;**
Scott Gronert; *Virginia Commonwealth University*

7:00 – 9:00 pm
WELCOME RECEPTION
Exhibit Hall
Be sure to view the undergraduate students posters.

MONDAY MORNING, JUNE 4

7:30 – 8:00 am
WAKE UP COFFEE
Outside Exhibit Hall D

8:00 – 8:15 am
CONFERENCE OPENING
Exhibit Hall D, lobby level
Barabara S. Larsen, President, ASMS
Gary L. Glish, Vice President for Programs, ASMS

PRESENTATION OF THE 2007 RESEARCH AWARDS

Thermo Scientific Research Award, presented by Ian Jardine to Rebecca Jockusch, *University of Toronto*

Waters Corporation Research Award, presented by Lance Nicolaysen to Gavin E. Reid, *Michigan State University*

Applied Biosystems Research Award, presented by Arthur E. Simms to Joshua J. Coon, *University of Wisconsin*

8:15 – 9:00 am
PLENARY LECTURE: Eugenie C. Scott
National Center for Science Education
Lessons from the Dover Trial: Science, Culture, and the Law

9:15 - 11:15 am
PROTEINS: MS BASED QUANTITATION
Chair: Nathan Yates
Exhibit Hall D

MOA am 09:15 **Discovery and Quantitation of the Phosphorylation Events that Trigger Human Embryonic Stem Cells to Exit the Pluripotent state**; Danielle L Swaney[1]; Scott B. Ficarro[2]; Xuezhu Feng[1]; Victor Ruotti[1]; Ron Stewart[1]; James A. Thomson[1]; Travis Berggren[1]; Joshua J. Coon[1]; *[1]University of Wisconsin, Madison, WI; [2]Genomics Institute of the Novartis Research Found., San Diego, CA*

MOA am 09:35 **Site-Specific Phosphorylation Identification and Quantification of the p21-Activated Kinase 4**; Christopher M. Adams[1]; Staffan Strömblad[2]; Roman A. Zubarev[1]; *[1]Uppsala University, Uppsala, SWEDEN; [2]Karolinska Institute, Stockholm, Sweden*

MOA am 09:55 **Label-Free Quantitative Proteomics using Data-Independent Acquisition of Tandem Mass Spectrometry Data**; Gregory Finney[1]; Michael J Toth[2]; Michael J MacCoss[1]; *[1]University of Washington, Seattle, WA; [2]University of Vermont, Burlington, VT*

MOA am 10:15 **Quantification of Proteins from Human Pathogens by Isotope Dilution Mass Spectrometry**; John R Barr[1]; Anne E Boyer[1]; Tracie L Williams[1]; Leah G Luna[1]; Lisa G McWilliams[2]; Sara C McGrath[1]; Adrian R Woolfitt[1]; David M Schieltz[1]; Maria I Solano[1]; Suzanne R Kalb[1]; Hercules Moura[1]; Conrad P Quinn[1]; James L Pirkle[1]; *[1]Centers for Disease Control and Prevention, Atlanta, GA; [2]Battelle Memorial Institute, Atlanta, GA*

MOA am 10:35 **Multiplexed Quantitation of Proteins and Post-Translational Modifications using iTRAQ on an Orbitrap Mass Spectrometer**; Marcus Bantscheff; Markus Boesche; Gavain Sweetman; Bernhard Kuster; *Cellzome AG, Heidelberg, Germany*

MOA am 10:55 **Quantitative Estimation of Trypanosoma Brucei Flagellar Protein Expression Knock-Down Following RNA Interference, using iTRAQ and Tandem Mass Spectrometry**; Sarah R Hart[1]; Richard Broadhead[2]; Jennifer Siepen[1]; Neil Swainston[1]; Keith Gull[3]; Simon J Hubbard[1]; Paul J McKean[2]; Simon J Gaskell[1]; *[1]University of Manchester, Manchester, United Kingdom; [2]University of Lancaster, Lancaster, United Kingdom; [3]University of Oxford, Oxford, United Kingdom*

9:15 - 11:15 am
DETERMINING LESS COMMON PTMS BY MS
Chair: Kristina Hakansson
Wabash Ballroom, lobby level

MOB am 09:15 **Detection and Function of Diverse Post-Translational Modifications**; Neil L. Kelleher; *University of Illinois, Urbana, IL*

MOB am 09:35 **Pluripotency-Specific Epigenetic Chromatin Methylation Signatures Revealed by Multiple Dissociation Modalities**; Jacob D. Jaffe[1]; Alex Meissner[2]; Bradley E. Bernstein[3]; Steven A. Carr[1]; *[1]The Broad Institute of Harvard and MIT, Cambridge, MA; [2]Whitehead Institute for Biomedical Research, Cambridge, MA; [3]Massachusetts General Hospital, Boston, MA*

MOB am 09:55 **Enrichment and Characterization of Histone Ubiquitination by Mass Spectrometry**; Xiaodan Su; Naduparambil K. Jacob; Ravindra Amunugama; Rick Fishel; Michael A. Freitas; *Ohio State Univ., Columbus, OH*

MOB am 10:15 **ZIC-HILIC-RP: A Highly Viable Alternative MudPIT Strategy for Comprehensive PTM-Focused Proteomics Studies**; Paul J Boersema[1]; Nullin Divecha[2]; Albert JR Heck[1]; Shabaz Mohammed[1]; *[1]Utrecht University, Utrecht, Netherlands; [2]The Netherlands Cancer Institute, Amsterdam, Netherlands*

9:15 - 11:15 am
DETERMINING LESS COMMON PTMS BY MS continued

MOB am 10:35 **A Novel Method for Determination of the Sites of Tyrosine-O-Sulfation in Peptides and Proteins**; Yonghao Yu[1]; Connie Jen[1]; Kevin L. Moore[2]; Julie A. Leary[1]; *[1]Univerisity of California, Davis, CA; [2]The University of Oklahoma Health Sciences Center, Oklahoma City, OK*

MOB am 10:55 **Characterization of O-sulfated Peptides and Oligosaccharides by Divalent Metal Complexation and Electron Capture Dissociation**; Haichuan Liu; Kristina Hakansson; *Department of Chemistry, University of Michigan, Ann Arbor, MI*

9:15 - 11:15 am
LIPID MS
Chair: Michael Leavell
Room 120-124, lobby level

MOC am 09:15 **Identification and Quantification of New Lipids in Neuromelanin Isolated from Human Midbrains**; Weslyn C. Ward[1]; Ziqiang Guan[2]; Fabio A. Zucca[3]; Luigi Zecca[3]; Christian R. H. Raetz[2]; John D. Simon[1]; *[1]Duke University, Durham, NC; [2]Duke Univeristy Medical Center, Durham, NC; [3]Institute of Biomedical Technologies, Segrate, Italy*

MOC am 09:35 **Quantitation of Fatty Acyl-Coenzyme A Species in Cultured Mammalian Cell Extracts by HPLC-Electrospray Tandem Mass Spectrometry**; Christopher A. Haynes; Ying Liu; Kacee H. Sims; Elaine W. Wang; M. Cameron Sullards; Alfred H. Merrill, Jr.; *Georgia Institute of Technology, Atlanta, GA*

MOC am 09:55 **Algorithm for Processing Mass Spectrometric Data to Identify and Quantitate Complex Lipid by Data-Dependent Scanning and Fragment Ion Database Searching**; Haowei Song; Fong-Fu Hsu; Jack Ladenson; John Turk; *Washington University School of Medicine, St. Louis, MO*

MOC am 10:15 **Ozone Induced Dissociation (OzID): A Novel Method for On-Line Identification of Double Bond Position within Unsaturated Lipids**; Michael C Thomas; Todd W Mitchell; David G Harman; Stephen J Blanksby; *University of Wollongong, Wollongong, Australia*

MOC am 10:35 **Structural Characterization of a Sulfated Metabolite Produced by *stf3* from *Mycobacterium tuberculosis***; Cynthia Holsclaw[1]; Michael W Schelle[2]; Michael D Leavell[1]; Christopher J Petzold[1]; Sarah Gilmore[2]; Carolyn R Bertozzi[2]; Julie A Leary[1]; *[1]University of California, Davis, Davis, CA; [2]University of California, Berkeley, Berkeley, CA*

MOC am 10:55 **Lipidome Profiling and Biomarker Identification of Blood Serum from Breast Cancer Patients**; Guangxiang Wu[1]; Iveta Klouckova[2]; Lacey E. Dobrolecki[3]; Robert J. Hickey[3]; Milos V. Novotny[1]; Yehia Mechref[1]; *[1]METACyte Biochemical Analysis Center, Bloomington, IN; [2]Indiana University, Bloomington, IN 47405; [3]Indiana University School of Medicine, Indianapolis, IN*

9:15 - 11:15 am
INCREASING MS THROUGHPUT IN PHARMACEUTICAL BIOANALYSIS
Chair: Panos Hatsis
500 Ballroom, lobby level

MOD am 09:15 **Enhancing PK Throughput in Drug Discovery and Development**; Steve E. Unger; *Bristol-Myers-Squibb, Princeton, NJ*

MOD am 09:35 **Not So Fast: A Novel Way to Employ Longer HPLC Separations without Slowing Down Your MS**; Thomas L. Lloyd[1]; Daniel Dean[1]; Sergio Guazzotti[2]; Roberto Barbero[3]; *[1]Wyeth, Collegeville, PA; [2]Nanostream, Inc., Pasedena, CA; [3]Biological Engineering Division, MIT, Cambridge, MA*

MOD am 09:55 **The Feasibility of Quantitative MALDI Versus ESI on a Triple Quadrupole Platform for PK Analysis of Drugs**; Dietrich A Volmer[1]; Lekha Sleno[2]; Kevin Bateman[3]; Jay Corr[4]; *[1]Medical Research Council, Cambridge, UK; [2]University of Geneva, Geneva, Switzerland; [3]Merck Frosst, Montreal, Canada; [4]MDS Sciex, Concord, Canada*

MOD am 10:15 **Development of an Ultra High Throughput MS/MS CYP Inhibition Assay**; Daniel B. Kassel[1]; Kheng Lim[1]; Can C Ozabal[2]; William A LaMarr[2]; *[1]Takeda San Diego, Inc, San Diego, CA; [2]BioTrove, Inc., Woburn, MA*

MOD am 10:35 **Investing High-Throughput to Obtain High Quality in Bioanalysis**; Richard King; Emily Adarayan; Carmen Fernandez-Metzler; Debra McLoughlin; James Yergey; *Merck & Company, Inc., West Point, PA*

MOD am 10:55 **Toward Rapid Quantification in a Discovery Pharmaceutical Setting using Online Nanoelectrospray and FAIMS**; Panos Hatsis[1]; Gary Valaskovic[2]; Lee Sawdey[2]; Jing-Tao Wu[1]; *[1]Millennium Pharmaceuticals, Cambridge, MA; [2]New Objective, Woburn, MA*

9:15 - 11:15 am
ESI IN THE YEAR OF JOHN FENN'S 90TH BIRTHDAY
Chair: Gary Van Berkel
Sagamore Ballroom 5-6-7, level 2

MOE am 09:15 **An Old Dog with a New Trick**; John B. Fenn; Steve Nguyen; *Virginia Commonwealth University, Richmond, VA*

MOE am 09:35 **Conformational and Non-Covalent Complexation Changes of Electrosprayed Proteins Induced by Transitions between Spraying Modes**; Peter Nemes; Samita Goyal; Akos Vertes; *George Washington University, Washington, DC*

MOE am 09:55 **Toward a Stable Electrospray**; Ioan Marginean; Ryan T. Kelly; Jason S. Page; Keqi Tang; Richard D. Smith; *Pacific NorthWest National Laboratory, Richland, WA*

MOE am 10:15 **The Role of Mass Spectrometry in Ultrafast X-ray Laser Diffractive Imaging of Electrosprayed Biomolecules, Nanoparticles and Cells**; Mike Bogan; *Lawrence Livermore National Laboratory, Livermore, CA*

MOE am 10:35 **Eliminating Ion Losses at Atmospheric Pressure**; Ross C. Willoughby; Edward W. Sheehan; *Chem-Space Associates, Pittsburgh, PA*

9:15 - 11:15 am
ESI IN THE YEAR OF JOHN FENN'S 90TH BIRTHDAY
continued

MOE am 10:55 **Characterization of Ion Generation by a Venturi-Assisted Array of Micromachined Ultrasonic Electrosprays**; Facundo Fernandez[1]; Christina Y. Hampton[1]; Thomas P. Forbes[1]; J. Mark Meacham[2]; Robert B. Dixon[3]; Catherine J. Silvestri[1]; David C. Muddiman[3]; F. Levent Degertekin[1]; Andrei G. Fedorov[1]; *[1]Georgia Institute of Technology, Atlanta, GA; [2]National Institute of Standards and Technology, Gaithersburg, MD; [3]North Carolina State University, Raleigh, NC*

9:15 - 11:15 am
DEVELOPMENT IN IMAGING MS
Chair: Amina S. Woods
Sagamore Ballroom 3-4, level two

MOF am 09:15 **Imaging Mass Spectrometry: Ventures in Space and Time**; Richard M. Caprioli; *Vanderbilt Univ Sch of Med, Nashville, TN*

MOF am 09:55 **MALDI-Ion Mobility-oTOFMS Imaging and Profiling of Lipids and Neuropeptides in Rat Brain Tissue**; J. ALBERT Schultz[1]; Michael V Ugarov[1]; Thomas Egan[1]; Denis Langlais[1]; Shelley N. Jackson[2]; Jeremy Post[2]; Hay-Yan J. Wang[2]; Amina S. Woods[2]; *[1]Ionwerks Inc., Houston, TX; [2]NIDA IRP, NIH, Baltimore , MD*

MOF am 10:15 **Comparison of MALDI-MS Imaging with Laser Capture Microdissected Tissue Confirms the Expression of Specific Proteins in Prostate Cancer Cells**; Lisa H. Cazares; Nicholas P. Schaub; Mary Ann Clements; Savvas E. Mendrinos; Raymond S. Lance; Richard R. Drake; O. John Semmes; *Eastern Virgina Medical School, Norfolk, VA*

MOF am 10:35 **MALDI Direct Analysis and Imaging of Frozen Versus Ffpe Tissues: What Strategy for Which Sample?** Isabelle Fournier; Rémi Lemaire; Maxence Wisztorski; Jonathan Stauber; Olivia Jardin-Mathé; Michel Salzet; *FRE-CNRS 2933, University of Lille I, Villeneuve d'Ascq, France*

MOF am 10:55 **Atmospheric Pressure Infrared MALDI Mass Spectrometry: Imaging and *in vivo* Studies of Metabolites in Plants**; Yue Li; Bindesh Shrestha; Akos Vertes; *George Washington University, Washington, DC*

9:15 - 11:15 am
USING MASS SPECTROMETRY TO STUDY THE ROLE OF METAL IONS IN BIOLOGY
Chair: Perdita Barran
Sagamore Ballroom 1-2, level two

MOG am 09:15 **Electrospray Ionization Mass Spectrometry of the Interaction of Oligonucleotides with Metals, Small Molecules and Drugs**; Janna Anichina; Diethard K. Bohme; *York University, Department of Chemistry, Toronto, Canada*

MOG am 09:35 **Top-Down Mass Spectrometry of Noncovalent Protein Complexes for Determining Ligand Binding Sites**; Sheng Yin[1]; Vlad Zabrouskov[2]; Joseph A. Loo[1]; *[1]UCLA, Los Angeles, CA; [2]Thermo Scientific, San Jose, CA*

MOG am 09:55 **Zinc Uptake and Release by Metallothioneins and their Regulators from Bacteria and Plants**; Claudia A Blindauer; Oksana Leszczyszyn; Joanne Palmer; Kowald Gregory; *University of Warwick, Coventry, United Kingdom*

MOG am 10:15 **The Role of Alkali Metals in Helix Stabilization**; Janel R Mclean; John A. McLean; David H. Russell; *Texas A & M University, College Station, TX*

MOG am 10:35 **A Molecular Basis for Enhancing Phytoremediating Plants through Genetic Modification: An Atomic and Molecular MS Study**; Joseph A. Caruso[1]; Kevin Kubachka[1]; Juris Meija[1]; Danika LeDuc[2]; *[1]University of Cincinnati, Cincinnati, OH; [2]California State Univ. East Bay, Hayward, CA*

MOG am 10:55 **Proteomic Characterization of Spinal Cord Lipid Raft Proteins in ALS**; Jianjun Zhai; Anna-Lena Strom; Zhenyu Huang; Renee Kilty; Priya Venkatakrishnan; Eric Smart; Haining Zhu; *University of Kentucky, Lexington, KY*

11:15 am – 3:30 pm
POSTER SESSION AND EXHIBITS
Exhibit Hall

7:30 – 8:00 am ..... Set up Monday posters (page 42)
11:15 – 3:30 pm .....All Monday poster authors present
11:45 am – 12:15 pm ..... Lunch break for odd-numbered posters
12:15 – 12:45 pm .....Lunch break for even-numbered posters
7:30 – 8:00 pm ..... Remove all Monday posters

12:45 – 2:00 pm
INTEREST GROUP MEETINGS. See schedule on page 18.

MONDAY AFTERNOON

3:30 – 5:30 pm
PROTEINS: MS BASED QUANTITATION
Chair: Victor Ryzhov
Exhibit Hall D, lobby level

MOA pm 03:30 **Integration of Asp-Specific Acid Cleavage into Quantitative Proteomics**; Catherine Fenselau; Steven Swatkoski; Olli Laine; Alexey Petrov; Jonathan Dinman; Nathan Edwards; *University of Maryland, College Park, MD*

MOA pm 03:50 **^{18}O Labeling as a Tool to Differentiate between Real Interactors and Non-Specifically Binding Proteins in Defining Protein Complexes**; Jeroen A. A. Demmers; Karel Bezstarosti; *Erasmus University Medical Center, Rotterdam, Netherlands*

MOA pm 04:10 **Quantitative Mass Spectrometry Identifies New Insulin/IGF-1 Signaling Targets that Influence Aging**; Meng-Qiu Dong[1]; John D Venable[1]; Nora Au[2]; Tao Xu[1]; Sung Kyu Park[1]; Daniel Cociorva[1]; Jeffrey Johnson[1]; Andrew Dillin[3]; John R Yates, III[1]; *[1]The Scripps Research Institute, La Jolla, CA; [2]University of California, San Diego, La Jolla, CA; [3]The Salk Institute for Biological Studies, La Jolla, CA*

MOA pm 04:30 **Use of Quantitative and Semi-Quantitative Mass Spectrometric Approaches to Investigate Physiological Roles of the Two Mammalian Mannose 6-phosphate Receptors**; Meiqian Qian; David E. Sleat; Haiyan Zheng; Peter Lobel; *CABM, Dept. of Pharmacology, UMDNJ, Piscataway, NJ*

3:30 – 5:30 pm
PROTEINS: MS BASED QUANTITATION continued

MOA pm 04:50 **Protein Changes Due to Stroke Tolerance in Mouse Brains**; Martha D. Stapels[1]; Martin Gilar[1]; John C. Gebler[1]; Aaron White[2]; Tao Yang[2]; Roger P. Simon[2]; An Zhou[2]; *[1]Waters Corporation, Milford, MA; [2]Legacy Research, Portland, OR*

MOA pm 05:10 **Expanding the Capabilities of Peptide MRM-based Assays in Plasma using a Hybrid Triple Quadrupole Linear Ion Trap Mass Spectrometer**; Christie Hunter[1]; Leigh Anderson[2]; *[1]Applied Biosystems, Foster City, CA; [2]the Plasma Proteome Institute, Washington, DC*

3:30 – 5:30 pm
CHARACTERIZING CROSS-LINKED PROTEINS WITH MS
Chair: Christoph Borchers
Wabash Ballroom, lobby level

MOB pm 03:30 **Mass Spectrometric Determination of Factors Governing the Formaldehyde Cross-Linking Reaction and their Relevance for Protein Interaction Studies in Live Cells**; Judy Toews; Peter Schubert; Brent Sutherland; Juergen Kast; *University of British Columbia, Vancouver, Canada*

MOB pm 03:50 **Novel Isotopically-Coded Crosslinkers for Structural Proteomics**; Evgeniy Petrotchenko; Christoph Borchers; *University of Victoria Genome BC Proteomics Centre, Victoria, Canada*

MOB pm 04:10 **Crosslinked Peptide Data Obtained by Ion Mobility used to Sort Correct/Incorrect in Silico Protein Conformation Predictions**; David R. Goodlett[1]; Lars Malmstroem[1]; Chris Hughes[2]; Pragya Singh[1]; Chunsheng Zhao[1]; Alex Scherl[1]; Jie Liu[3]; Scott Shaffer[1]; James Langridge[2]; *[1]University of Washington, Seattle, WA; [2]Waters Corporation, Manchester, UK; [3]Shenzhen Nanshan Center, Shenshen, China*

MOB pm 04:30 **Combined LC-ESI-MS/MS and LC-MALDI-MS/MS Analysis Reveals an Unusual Protein-RNA Contact in Human [U1snRNP-snurportin1] Particles**; Eva Kühn-Hölsken[1]; Christof Lenz[2]; Florian Richter[1]; Monika Raabe[1]; Uwe Pleßmann[1]; Henning Urlaub[1]; *[1]Max-Planck-Institute for Biophysical Chemistry, Göttingen, Germany; [2]Applied Biosystems Europe, Darmstadt, Germany*

MOB pm 04:50 **Identification of Cross-Linked Peptides from Complex Samples with Full Proteome Protein Databases**; Oliver Rinner[1]; Jan Seebacher[2]; Martin Beck[1]; Alexander Schmidt[1]; Thomas Walzthoeni[1]; Lukas Mueller[1]; Markus Mueller[1]; Ruedi Aebersold[1]; *[1]Swiss Federal Institute of Technology, Zurich, Switzerland; [2]Harvard Medical School, Boston, MA*

MOB pm 05:10 **Identification of Outer Membrane Protein OmcA-MtrC Interactions in Shewanella Oneidensis MR-1 Cell *in vivo* using Novel Cross-Linker and Mass Spectrometry**; Haizhen Zhang[1]; Xiaoting Tang[1]; Natalia Zakharova[1]; Gerhard R. Munske[1]; Megan A. Wolff[1]; Liang Shi[2]; James K. Fredrickson[2]; Nikola Tolic[2]; Gordon A. Anderson[2]; James E. Bruce[1]; *[1]Washington State University, Pullman, WA; [2]Pacific Northwest National Laboratory, Richland, WA*

3:30 – 5:30 pm
THE GOLDEN ERA OF ENVIRONMENTAL MS: HONORING RON HITES AND BILL BUDDE
Chair: Susan Richardson
Room 120-124, lobby level

MOC pm 03:30 **I'm Just a Simple Chemist: The Environmental Mass Spectrometry Contributions of Professor Ronald Atlee Hites**; Edward T. Furlong; *National Water Quality Laboratory, U.S.G.S., Denver, CO*

MOC pm 03:50 **Mass Spectrometry Memories: Personal Reflection on the Transformation of Environmental Mass Spectrometry**; Deborah L. Swackhamer; *University of Minnesota, Minneapolis, MN*

MOC pm 04:10 **The Golden Era of Environmental Mass Spectrometry is Now**; Ronald A. Hites; *Indiana University, Bloomington, IN*

MOC pm 04:30 "**Toxic Clouds": Chapter 1 in the Story of Tetrachlorodibenzodioxin, Its Analysis and Its Accumulation in the Environment and in Humans**; Michael L. Gross; *Washington University, St Louis, MO*

MOC pm 04:50 **William L. Budde: A Retrospective**; O. David Sparkman; *University of the Pacific, Antioch, CA*

MOC pm 05:10 **A Top Seven List for the Golden Era of Environmental Mass Spectrometry**; William L. Budde; *USEPA (Retired), Cincinnati, OH*

3:30 – 5:30 pm
ENDOGENOUS METABOLITE PROFILING
Chair: Bethanne Warrack
500 Ballroom, lobby level

MOD pm 03:30 **Update and Overview of Metabonomics**; Michael Reily; *Pfizer, Inc., Ann Arbor, MI*

MOD pm 04:10 **Sample Preparation Approaches and Data Analysis for Metabonomic Profiling of Plasma Samples**; Petia Shipkova; Emily Luk; Serhiy Hnatyshyn; Mark Sanders; *Bristol Myers Squibb PRI, Princeton, NJ*

MOD pm 04:30 **Recent Advances in Expanding the MS/MS Spectral Database of Endogenous Human Metabolites**; Melisa Clements; Liang Li; *University of Alberta, Edmonton, Canada*

MOD pm 04:50 **Using Isotopic Variants of Cholamine for Relative Quantification of Carboxylic Acid Metabolites by LC-MS**; Michael R. Shortreed; Brian L. Frey; Shane M. Lamos; Peter J. Belshaw; Lloyd M. Smith; *University of Wisconsin, Madison, WI*

MOD pm 05:10 **From Cells to Humans: Mass Based Metabolomics Applied to Clinical and Fundamental Biochemistry**; William Wikoff[1]; Jon Gangoiti[2]; Bruce Barshop[2]; Gary Siuzdak[1]; *[1]The Scripps Research Intitute, San Diego, CA; [2]UCSD School of Medicine, La Jolla, CA*

3:30 – 5:30 pm
MOLECULAR RECOGNITION AND SUPRAMOLECULAR GAS-PHASE ION CHEMISTRY
Chair: Ryan R. Julian
Sagamore Ballroom 5-6-7, level two

MOE pm 03:30 **Molecular Strings and Springs: α,ï;-Alkyldiammonium Complexes of Cucurbit[6]uril in the Gas Phase**; David V. Dearden[1]; Haizhen Zhang[2]; Tyler A. Ferrell[1]; Matthew C. Asplund[1]; *[1]Brigham Young University, Provo, UT; [2]Washington State University, Pullman, WA*

MOE pm 03:50 **The Role of Phosphorylated Residues in Peptide-Peptide Noncovalent Complexes**; Shelley N Jackson; Amina S Woods; *NIDA-IRP, NIH, Baltimore, MD*

MOE pm 04:10 **Stereoselective Ligand Binding to Manganese/Salen Catalysts: A Gas-Phase Equilibrium Study**; Scott Gronert[1]; Adelaide Fagin[2]; Michel Lau[2]; Guoping Wang[1]; *[1]Virginia Commonwealth University, Richmond, VA; [2]San Francisco State University, San Francisco, CA*

MOE pm 04:30 **Characterisation of Noncovalently Bound Protein-RNA Complexes and their Role in Virus Capsid Assembly Mechanisms using ESI-MS**; Alison E. Ashcroft; Gabriela Basnak; Ottar Rolfsson; Simona Francese; Gary S. Thompson; Nicola J. Stonehouse; Peter G. Stockley; *University Of Leeds, Leeds, , United Kingdom*

MOE pm 04:50 **Insights into the Folding and Subunit Interactions of Hemoglobin by ESI-MS**; Brian L. Boys; Lars Konermann; *University of Western Ontario, Ontario, Canada*

MOE pm 05:10 **Mass Spectrometry Detection of Metal-Binding Protein Structure Modulation Caused by Ligand Interactions**; Elena Igwe; Graham Jansz; Graham A. McGibbon; *McMaster University, Hamilton, Canada*

3:30 – 5:30 pm
DEVELOPMENTS IN ION TRAP MASS SPECTROMETRY
Chair: Glen Jackson
Sagamore Ballroom 3-4, level two

MOF pm 03:30 **Doing the Ion-Trap Hokey-Pokey: 'Put Your Ions In, Get Your Ions Out, Put Your Ions in and Shake-'Em All About'**; Gavin E. Reid; *Michigan State University, East Lansing, MI*

MOF pm 03:50 **The Right Place and the Right Time: Increasing the Capacity in Modern 3-D Ion Traps**; Andreas Brekenfeld[1]; Desmond A. Kaplan[2]; Ralf Hartmer[1]; Jonathan Wilson[2]; Christoph Gebhardt[1]; Michael Schubert[2]; *[1]Bruker Daltonik GmbH, Bremen, Germany; [2]Bruker Daltonics, Inc., Billerica, MA*

MOF pm 04:10 **Dynamic CID – A Novel Method to Achieve Fast Fragmentation of Biomolecules in a QIT**; Ünige A. Laskay; Olivier L. Collin; Glen P. Jackson; *Ohio University, Athens, OH*

MOF pm 04:30 **Transmission Mode Ion/Ion Reactions in a Linear Ion Trap**; Xiaorong Liang[1]; Yu Xia[1]; James W. Hager[2]; Jian Liu[1]; Hongling Han[1]; Joshua F. Emory[1]; Brittany D.M. Hodges[1]; Scott A. McLuckey[1]; *[1]Purdue University, West Lafayette, IN; [2]MDS Sciex, Concord, ON,Canada*

MOF pm 04:50 **Implementation of Electron Transfer Dissociation on a Hybrid Linear Ion Trap-Orbitrap Mass Spectrometer**; Graeme Mcalister[1]; Alexander Makarov[23]; Stevan Horning[23]; Jae C. Schwartz[23]; Doug Phanstiel[1]; David M. Good[1]; W. Travis Berggren[1]; Joshua J. Coon[1]; *[1]The University of Wisconsin at Madison, Madison, WI; [2]Thermo Fischer Scientific, Bremen, Germany; [3]Thermo Fischer Scientific, San Jose, CA*

MOF pm 05:10 **Diagonal Dipolar Excitation Linear Ion Trap**; Houle Wang[1]; David S. Kennedy[1]; Kerry D. Nugent[1]; Gregory K. Taylor[2]; David R. Goodlett[2]; *[1]Michrom BioResources, Inc., Auburn, CA; [2]University of Washington, Seattle, WA*

3:30 – 5:30 pm
CHALLENGES IN POLYMER MS ANALYSIS
Chair: Sarah Trimpin
Sagamore Ballroom 1-2, level two

MOG pm 03:30 **Challenges in Polymer Characterization and ASAP and API-Pyrolysis for Polymer characterization**; Charles N. McEwen; *E I DuPont De Nemours, Wilmington, DE*

MOG pm 03:50 **Laser-Induced Acoustic Desorption / Chemical Ionization (LIAD/CI) Strategies Towards the Direct Mass Spectrometric Analysis of Underivatized Polyisobutylenes**; Putuma P. Gqamana[1]; David Aaserud[2]; Hilkka I. Kenttämaa[1]; *[1]Purdue University, West Lafayette, IN; [2]The Lubrizol Corporation, Wickliffe, OH*

MOG pm 04:10 **Polymer Characterization using Sophisticated Liquid Chromatographic Techniques Combined with MALDI- and ESI-TOF Mass Spectrometry**; Steffen M. Weidner; Jana Falkenhagen; Ulrich Just; Andreas Thuenemann; Sergey Maltsev; *Fed. Institute for Materials Research and Testing, Berlin, Germany*

MOG pm 04:30 **Analysis of Homopolymers and Copolymers by Ion Mobility Spectrometry-Mass Spectrometry**; Dragan Isailovic; Sarah Trimpin; Ruwan T Kurulugama; David E Clemmer; *Indiana University, Bloomington, , IN*

MOG pm 04:50 **Dissociation Pathways of Polymer Ions**; Chrys Wesdemiotis; Michael J. Polce; Kittisak Chaicharoen; Alyison M. Leigh; Edgardo Rivera-Tirado; *University of Akron, Akron, OH*

MOG pm 05:10 **An Approach to the Quantitative Determination of Polymer Molecular Mass Distribution by MALDI-TOF-Mass Spectrometry**; Charles M. Guttman; Kathleen M. Flynn; William E. Wallace; *NIST, Polymer Division, Gaithersburg, MD*

5:45 – 7:00 pm
WORKSHOPS
Please see schedule on page 18.

TUESDAY MORNING, JUNE 5

7:30 – 8:15 am
WAKE UP COFFEE
Outside Exhibit Hall D

8:15 - 10:15 am
MS DETERMINATION OF BIOMARKERS FOR DRUG SAFETY AND EFFICACY
Chair: Tracie Williams
Exhibit Hall D, lobby level

TOA am 08:15 **The Direct Use of Mass Spectrometry Measurements of Protein Biomarkers to Guide Drug Development Efforts**; John E. Hale; Jon P. Butler; Valentina Gelfanova; Jesus A. Gutierrez; Laura V. Hale; Bomie Han; Richard E. Higgs; Zhaoyan Jin; Michael D. Knierman; Jeffery S. Patrick; Masahiko Sato; Szekeres Philip; David E Watson; Jill A. Willency; Yuejun Zhen; *Eli Lilly & Co., Indianapolis, IN*

TOA am 08:35 **An Intact Protein LC/MS Strategy for Serum Biomarker Development: Biomarkers of Hepatic Responsiveness to Chemopreventive Treatment with the Triterpenoid CDDO-Im**; Peter F. Scholl[1]; Denis Andrzejewski[2]; John H. Callahan[2]; Steven M. Musser[2]; Thomas W. Kensler[1]; John D. Groopman[1]; *[1]Johns Hopkins University, Baltimore, MD; [2]U.S. Food and Drug Administration, CFSAN, College Park, MD*

TOA am 08:55 **Mass Spectrometric Quantitation of Small Molecules as Enabling Technology Beyond ADME – Improving Sensitivity and Throughput in Measuring Pharmacodynamic Markers**; Wenlin Li; Chengjie Ji; Gabriella Szekely-Klepser; Nalini Sadagopan; *Pfizer Global R&D, Ann Arbor, MI*

TOA am 09:15 **The Application of 8plex iTRAQ Reagents to Study the Spinal Fluid Proteome in an Alzheimer's Clinical Trial**; Kelvin H. Lee[1]; Leila H. Choe[1]; Mark d'Ascenzo[1]; Darryl Pappin[3]; Norman R. Relkin[2]; *[1]Cornell University, Ithaca, NY; [2]Cornell Univ. Medical College, New York, NY; [3]Applied Biosystems, Framingham, MA*

TOA am 09:35 **Bioanalytical Strategies for Antibody Drug Conjugate (ADC) Biopharmaceutical Development: Characterization of Trastuzumab-MCC-DM1 in Plasma by Affinity Mass Spectrometry**; Keyang Xu; Ola M. Saad; Jakub Baudys; Lara Williams; Surinder Kaur; *Genentech, Inc., South San Francisco, CA*

TOA am 09:55 **Accelerating Novel Drug Target Identification by Quantitative Proteomics**; Shao-en Ong; Monica Schenone; Stuart L. Schreiber; Steve Carr; *Broad Institute of MIT & Harvard, Cambridge, MA*

8:15 - 10:15 am
ETD v. ECD
Chair: Joshua J. Coon
Wabash Ballroom, lobby level

TOB am 08:15 **Radical-Induced Loss and Rearrangement Reactions in Electron-Capture Dissociation Studied using a Database Containing Over 15,000 Mass Spectra**; Mikhail Savitski; Michael Nielsen; Christopher Adams; Roman Zubarev; *Uppsala University, Uppsala, Sweden*

TOB am 08:35 **Application of Electron Transfer Dissociation (ETD) Mass Spectrometry in Proteomic Analysis**; Catherine C L Wong; Xuemei Han; Daniel Cociorva; Tao Xu; John R Yates; *The Scripps Research Institute, La Jolla, CA*

TOB am 08:55 **Electron Capture/Transfer Dissociation Product Ion Abundances: Correlation with Amino Acid Hydrophobicity and Application in Peptide and Protein Structural Analysis**; Yury O. Tsybin[1]; Huan He[2]; Hisham Ben Hamidane[1]; Mark R. Emmett[2]; Christopher L. Hendrickson[2]; Oleg Yu. Tsybin[3]; Alan G. Marshall[2]; *[1]Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland; [2]National High Magnetic Field Laboratory, Tallahassee, FL; [3]State Polytechnical University, Saint-Petersburg, Russia*

TOB am 09:15 **The Utility of Electron Transfer Dissociation in Routine Top-Down Analysis of Complex Protein Mixtures**; Maureen K. Bunger; Benjamin J. Cargile; Jonathan L. Bundy; James L. Stephenson, Jr.; *Research Triangle Institute, Research Triangle Park, NC*

TOB am 09:35 **Characterization of >150 Human Histone H3 Forms using Electron Capture Dissociation and FTMS**; Benjamin A. Garcia; James J Pesavento; Craig A. Mizzen; Neil L. Kelleher; *University of Illinois, Champaign, IL*

TOB am 09:55 **Performance Characteristics of Electron Transfer Dissociation**; Doug Phanstiel; David M Good; Matthew Wirtala; Graeme McAlister; Joshua J. Coon; *University of Wisconsin, Madison, WI*

8:15 - 10:15 am
MS ANALYSIS OF DNA ADDUCTS
Chair: Yinsheng Wang
Room 120-124, lobby level

TOC am 08:15 **Probing Ligand Binding to Duplex DNA using KMnO4 Reactions and Electrospray Ionization Tandem Mass spectrometry**; Jennifer Brodbelt; Carolyn Mazzitelli; *The University of Texas, Austin, TX*

TOC am 08:35 **Correlating DNA Adduct Levels and Gene Expression using LC-MS/MS and DNA Microarrays for a Foodborne Heterocyclic Aromatic Amine Procarcinogen**; James Glick[1]; Robert C. Sullivan[2]; Helmut Zarbl[2]; Paul Vouros[1]; *[1]Northeastern University and Barnett Institute, Boston, MA; [2]Robert Wood Johnson Medical School, Piscataway, NJ*

TOC am 08:55 **Identification and Quantification of Novel Oxidative Intrastrand Crosslink Lesions Formed in Hela Cells**; Haizheng Hong; Huachuan Cao; Yinsheng Wang; *University of California, Riverside, CA*

8:15 - 10:15 am
MS ANALYSIS OF DNA ADDUCTS continued

TOC am 09:15 **Stable Isotope Labeling – HPLC-MS/MS Analysis of Sequence Preferences for DNA Adduct Formation**; Natalia Tretyakova; *University of Minnesota, Minneapolis, MN*

TOC am 09:35 **Simultaneous Characterization and Quantification of Multiple DNA Adducts by LC-ESI/MS^n for Potential Use in Human Biomonitoring Studies**; Angela K. Goodenough; Robert J. Turesky; *Wadsworth Center, Albany, NY*

TOC am 09:55 **HPLC-ESI-MS/MS Method for Kinetic Analysis of *O*^{6}-Alkylguanine DNA Alkyltransferase Mediated Repair of Carcinogen Induced *O*^{6}-alkyldeoxyguanosine Lesions**; Rebecca C. Guza[1]; Qingming Fang[2]; Anthony E. Pegg[2]; Natalia Tretyakova[1]; *[1]University of Minnestoa, Minneapolis, MN; [2]Pennsylvania State University College of Medicine, Hershey, PA*

8:15 - 10:15 am
PROTEIN PROTEIN INTERACTIONS
Chair: Julie A. Leary
500 Ballroom, lobby level

TOD am 08:15 **Use of a Travelling Wave-Based Ion Mobility Mass Spectrometry Approach to Resolve Proteins of Varying Conformation**; James H Scrivens[1]; Konstantinos Thalassinos[1]; Gillian Hilton[1]; Susan E Slade[1]; Teresa J T Pinheiro[1]; Robert H Bateman[2]; Michael T Bowers[3]; *[1]Univ of Warwick, Coventry, United Kingdom; [2]Waters, Manchester, UK; [3]UCSB, Santa Barbara, CA*

TOD am 08:35 **Use of Ion Mobility and High Mass Analysis for the Determination of Protein Protein Interaction and Topology**; Iain D G Campuzano[1]; James Langridge[1]; Armann Andaya[2]; Matthew Schenauer[2]; Julie Leary[2]; *[1]Waters Corporation, Manchester, United Kingdom; [2]Genome Centre UC Davis, Davis, CA*

TOD am 08:55 **Interactions between Viral Accessory Proteins and Src-Family Kinases Measured by H/D Exchange Mass Spectrometry**; John R. Engen[1]; Thomas E. Wales[1]; David D. Weis[2]; Lori Emert-Sedlak[3]; Thomas E. Smithgall[3]; *[1]Northeastern University, Boston, MA; [2]University of New Mexico, Albuquerque, NM; [3]University of Pittsburgh, Pittsburgh, PA*

TOD am 09:15 **Comparing SID and CID of Noncovalent Protein-Protein Complexes in a Modified QTOF Mass Spectrometer**; Richard L. Beardsley; Christopher M. Jones; Asiri S. Galhena; Vicki H. Wysocki; *University of Arizona, Tuscon, AZ*

TOD am 09:35 **Virus Assembly Studied by Macromolecular (Tandem) Mass Spectrometry and Ion Mobility**; Kristina Lorenzen; Charlotte Uetrecht; Cees Versluis; Albert J.R. Heck; *Utrech University, CA Utrecht, Netherlands*

TOD am 09:55 **Protein Conformational Flexibility and Structural Change upon Binding of Ligands and Proteins Studied by Ion Mobility Q-TOF MS**; Stephen J. Watt[1]; Iain Campuzano[2]; Frank Sobott[1]; *[1]Structural Genomics Consortium, Oxford, United Kingdom; [2]Waters Corporation, Manchester, UK*

8:15 - 10:15 am
LC-MALDI MASS SPECTROMETRY
Chair: Liang Li
Sagamore Ballroom 5-6-7, level two

TOE am 08:15 **Optimizing the LC-MALDI Process: From High-Density Sample Fractionation to Data Acquisition**; J. Bryce Young; Liang Li; *University of Alberta, Edmonton, Canada*

TOE am 08:55 **2D HPLC-MALDI MS Analysis of Complex Protein Mixtures with Peptide Retention Prediction in Both Dimensions**; Oleg V. Krokhin[1]; Vic Spicer[2]; Werner Ens[2]; Kenneth G. Standing[2]; John A. Wilkins[1]; *[1]Manitoba Centre for Proteomics and Systems Biology, Winnipeg, Canada; [2]University of Manitoba, Winnipeg, Canada*

TOE am 09:15 **1D- and 2D-Protein Chromatography within the Proteomics Workflow for Enhanced Characterization of Protein Post-Translational Modifications**; Mark E. Mccomb; Claire Dauly; David H. Perlman; Weiwei Tong; Yang Su; Boris Hayete; James West; Catherine E. Costello; *Cardiovascular Proteomics Center, BUSM, Boston, MA*

TOE am 09:35 **Combining MALDI-FTMS and Bioinformatics for Peptidomic Comparison Among Decapod Crustacean Species**; Joshua Schmidt[1]; Andrew Christie[2]; Sean McIlwain[1]; Mingming Ma[1]; David Page[1]; Lingjun Li[1]; *[1]University of Wisconsin-Madison, Madison, WI; [2]University of Washington, Seattle, WA*

TOE am 09:55 **LC-MALDI-TOF-TOF Experiments on Venoms: A Powerful Approach for *de novo* and Top-Down Sequencing of New Pharmacological Tools**; Loïc Quinton[1]; Kevin Demeure[1]; Rowan Dobson[1]; Nicolas Gilles[2]; Edwin De Pauw[1]; *[1]University of Liège, Liège, Belgium; [2]CEA - DIEP, Saclay, France*

8:15 - 10:15 am
DEVELOPMENTS IN TOF MS INSTRUMENTATION
Chair: Werner E. Ens
Sagamore Ballroom 3-4, level two

TOF am 08:15 **High Performance MALDI-TOF Mass Spectrometry**; Marvin Vestal; *Virgin Instruments Corp., Sudbury, MA*

TOF am 08:35 **MSnth on a QqTOF Tandem Mass Spectrometer**; Bruce A. Thomson; Igor V. Chernushevich; *MDS Sciex, Concord, Canada*

TOF am 08:55 **A Multiple-Reflection Time-of-Flight Isobar Separator**; Wolfgang R. Plass[1]; Timo Dickel[1]; Martin Petrick[1]; Ulrich Czok[1]; Hans Geissel[2]; Christian Jesch[1]; Christoph Scheidenberger[2]; *[1]Justus-Liebig-Universität Giessen, Giessen, Germany; [2]Gesellschaft für Schwerionenforschung, Darmstadt, Germany*

TOF am 09:15 **High Resolution Multi Reflecting Time-of-Flight Mass Spectrometer with Electrospray Ion Source**; Viatcheslav Artaev[1]; Matthew Giardina[1]; Anatoly Verentchikov[2]; Yuri Hasin[2]; Mikhail Gavrik[2]; Boris Kozlov[2]; Marat Muradymov[2]; Michail Yavor[2]; *[1]LECO Corporation, St Joseph, MI; [2]Mass Spectrometry Consulting, St. Petersburg, Russia*

8:15 - 10:15 am
DEVELOPMENTS IN TOF MS INSTRUMENTATION continued

TOF am 09:35 **Dynamic Range Extension for TOF MS with Orthogonal Injection**; Igor Chernushevich; Alexander Loboda; *MDS Sciex, Concord, Canada*

TOF am 09:55 **Ultra-sensitive Determination of Polycyclic Aromatic Compounds with an Atmospheric Pressure Laser Ionization Interface for AP GC-MS**; Thorsten Benter; Ralf Schiewek; Marc Schellentraeger; Rene Moennikes; Matthias Lorenz; Ronald Giese; Klaus J Brockmann; Siegmar Gaeb; Oliver J Schmitz; *University of Wuppertal, Wuppertal, Germany*

8:15 - 10:15 am
HYDROCARBON ANALYSIS VIA MASS SPECTROMETRY
Chair: Ryan P. Rodgers
Sagamore Ballroom 1-2, level two

TOG am 08:15 **Sulfur Speciation of Petroleum by Atmospheric Pressure Photoionization Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; Alan G. Marshall; Jeremiah M. Purcell; Christopher L. Hendrickson; Do-Gyun Kim; Ryan P. Rodgers; *Ion Cyclotron Resonance Prog, Tallahassee, FL*

TOG am 08:35 **Classification of Sulfur Heterocycles in Crude Oil Fractions using Chromatographic Sample Preparation and FT-ICR MS Analysis**; Wolfgang Schrader[1]; Saroj K. Panda[1]; Jan T. Andersson[2]; *[1]Max-Planck-Institut für Kohlenforschung, Mülheim / Ruhr, Germany; [2]Westfälische Wilhelms-Universität Münster, Münster, Germany*

TOG am 08:55 **Field Ionization Mass Spectrometry, Response Factors, and the Use in Quantifying Base Oil**; Michael T. Cheng; James Hudson; *Chevron Research, Richmond, CA*

TOG am 09:15 **A new Approach to Molecular Characterization of Solid Petroleum Precursors by a Tandem NMR and FT-ICR-MS at 12 Tesla**; Rachel L. Sleighter[1]; Heidi M. Bialk[1]; Isaiah D. Ruhl[2]; Patrick G Hatcher[1]; *[1]Old Dominion University, Norfolk, VA; [2]Ohio State University, Columbus, OH*

TOG am 09:35 **Hydrocarbon Analysis with the Supersonic GC-MS - A Novel Concept of Isomer Abundance Analysis**; Alexander B. Fialkov; Aviv Amirav; Alexander Gordin; *Tel-Aviv University, Tel-Aviv, Israel*

TOG am 09:55 **Reactions of $ClMn(H_2O)^+$ with Polar and Nonpolar Hydrocarbons in FT-ICR: Observation of H_2O Ligand Displacement without Dehydrogenation or Fragmentation**; Penggao Duan[1]; Mingkun Fu[1]; David S. Pinkston[1]; Steven C. Habicht[1]; Kuangnan Qian[2]; Hilkka I. Kenttämaa[1]; *[1]Purdue University, West Lafayette, IN; [2]ExxonMobil Research and Engineering Company*

10:15 am – 2:30 pm
POSTER SESSION AND EXHIBITS

7:30 – 8:00 am ..... Set up Tuesday posters (page 69)
10:15 am – 2:30 pm .....All Tuesday poster authors present
11:45 am – 12:15 pm ..... Lunch break for odd-numbered posters
12:15 – 12:45 pm .....Lunch break for even-numbered posters
7:30 – 8:00 pm ..... Remove all Tuesday posters

12:45 – 2:00 pm
INTEREST GROUP MEETINGS
See schedule on page 18.

TUESDAY AFTERNOON

2:30 - 4:30 pm
DYNAMIC RANGE IN MASS SPECTROMETRY BASED PROTEOMICS MEASUREMENTS
Chair: Michael J. MacCoss
Exhibit Hall D, lobby level

TOA pm 02:30 **DASER-MMF - Finding ALL the Needles in a Haystack**; Ryan M. Danell[1]; Severine A. Ouvry-Patat[2]; Cameron O. Scarlett[3]; J. Paul Speir[4]; Christoph H. Borchers[5]; *[1]Danell Consulting, Greenville, NC; [2]University of North Carolina, Chapel Hill, NC; [3]University of Wisconsin, Madison, WI; [4]Bruker Daltonics, Billerica, MA; [5]University of Victoria Proteomics Centre, Victoria, Canada*

TOA pm 02:50 **Assessment of the Dynamic Range in Profiling Complex Mixtures by µLC-MS using Fourier Transfrom Mass Spectrometry**; Michael R. Hoopmann; Michael J. MacCoss; *Univ of Washington, Genome Sciences, Seattle, WA*

TOA pm 03:10 **Complementing Discovery-Based Proteomic Platforms with Targeted Analysis of Proteins Involved in Human Heart Failure**; Kelli G. Kline[1]; Michael J. MacCoss[2]; Christine C. Wu[1]; *[1]University of Colorado Health Sciences Center, Aurora, Cty; [2]University of Washington, Seattle, WA*

TOA pm 03:30 **Quantitative Mass Spectrometric Assay Development for Characterizing Endogenous B-type Natriuretic Peptide (BNP) from Congestive Heart Failure Patients**; Adam Hawkridge[1]; Denise M. Heublein[2]; Alessandro Cataliotti[2]; John C. Burnett, Jr. [2]; David C. Muddiman[1]; *[1]NC State University, Raleigh, NC; [2]Mayo Clinic College of Medicine, Rochester, MN*

TOA pm 03:50 **Comprehensive Comparative Proteomic and Transcriptomic Profiling of the Fission Yeast Schizosaccharomyces Pombe**; Michael W. Schmidt; Andres Houseman; Katie Doud; Dieter A. Wolf; Alexander R. Ivanov; *Harvard School of Public Health, Boston, MA*

TOA pm 04:10 **Informative Fractionation and FT ICR MS Analysis to Go Down into the Dynamic Range of Expression of Plasma Proteins**; Olivia Guerre; Florence Guérard; Christian Rolando; *Univ. des Science/Tech de Lille, Villeneuve d'Ascq, France*

2:30 - 4:30 pm
MS EVALUATION OF BIOMARKERS
Chair: Lambert C. Ngoka
Wabash Ballroom, lobby level

TOB pm 02:30 **Inactivation of Glyceraldehyde-3-Phosphate Dehydrogenase by Fumarate: Formation of S-(2-succinyl)cysteine, a Novel Biomarker of Mitochondrial Dysfunction in Diabetes**; Matthew Blatnik; Norma Frizzell; Susan R. Thorpe; John W. Baynes; *University of South Carolina, Columbia, SC*

TOB pm 02:50 **Application of FAIMS for Increased Selectivity in Quantitation of Asparagine Synthetase from Leukemia Samples**; Susan E. Abbatiello; Thomas P. Conrads; *University of Pittsburgh Cancer Institute, Pittsburgh, PA*

TOB pm 03:10 **Quantitation of Protein Biomarkers of Cardiovascular Injury in Patients by Targeted MS**; Terri Addona[1]; Hasmik Keshishian[1]; Michael Burgess[1]; Xu Shi[2]; Veronica Saenz-Vash[1]; Eric Kuhn[1]; Robert E. Gerszten[2]; Steven A. Carr[1]; *[1]Broad Institute of MIT and Harvard, Cambridge, MA; [2]Massachusetts General Hospital, Boston, MA*

TOB pm 03:30 **Identification of Potential Plasma Biomarkers of Traumatic Brain Injury using a Subtractive Proteomic Approach**; Fabio Leonessa[2]; Eleanor Y. Lee[2]; DaRue A. Prieto[1]; King C. Chan[1]; Hongna Pan[2]; Haleem J. Issaq[1]; Timothy D. Veenstra[1]; James M. Ecklund[2]; *[1]SAIC-Frederick, Frederick, MD; [2]Uniformed Services University of Health Sciences, Bethesda, MD*

TOB pm 03:50 **Identification and Validation of Differentially Expressed Proteins Associated with Hypoxia in Human Malignant Glioma Cell Lines**; Uwe Warnken[1]; Tore Kempf[1]; Stefan Rahn[1]; Wolfgang Wick[2]; Brigitte Frank[2]; Martina Schnölzer[1]; *[1]German Cancer Research Center, Heidelberg, Germany; [2]University of Tübingen Medical School, Tübingen, Germany*

TOB pm 04:10 **Novel Strategy for Multiplexed Biomarker Analysis**; Bruno Domon; Hoo-Keun Lee; Vinzenz Lange; Ruedi Aebersold; *ETH Zurich, Zurich, Switzerland*

2:30 - 4:30 pm
MS IMAGING: SMALL MOLECULES
Chair: Pierre Chaurand
Room 120-124, lobby level

TOC pm 02:30 **Imaging Drugs and Metabolites in Tissues by MALDI MS**; Michelle L. Reyzer; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*

TOC pm 02:50 **MALDI Mass Spectrometric Imaging of Lipids: The Use of Sublimation for Matrix Deposition Minimizes Analyte Spreading**; Joseph A. Hankin; Robert M. Barkley; Robert C. Murphy; *University of Colorado Health Science Ctr, Aurora, CO*

TOC pm 03:10 **Investigation of Altenative Matrixes for LDI MS imaging of Small Molecules**; Sangwon Cha; Hui Zhang; Wenxu Zhou; Basil Nikolau; Edward S. Yeung; *Iowa State University, Ames, IA*

TOC pm 03:30 **High Resolution Imaging of Secreted Peptides in Bacterial Community**; Delphine Debois[1]; Vincent Guérineau[1]; Kassem Hamzé[2]; Barry Holland[2]; Simone Séror[2]; Alain Brunelle[1]; Olivier Laprévote[1]; *[1]Laboratoire de Spectrométrie de Masse, ICSN / CNRS, Gif-sur-Yvette, France; [2]Institut de Génétique et Microbiologie, CNRS, Orsay, France*

TOC pm 03:50 **Whole-Cell Sample Preparation for Imaging Mass Spectrometry of Individual Cells and Application to Radiation Treatment of Human Breast Cancer Cells**; Elena S.F. Berman; Susan L. Fortson; Mark G. Knize; Ligang Wu; Kristen S. Kulp; James S. Felton; Kuang Jen Wu; *Lawrence Livermore National Lab, Livermore, CA*

TOC pm 04:10 **Analysis of Latent Fingerprints by Imaging Desorption Electrospray Ionization (DESI) - Mass Spectrometry**; Demian R. Ifa; Ismael Cotte-Rodriguez; Nicolas E. Manicke; Luke Gumaelius; R. Graham Cooks; *Purdue University, West Lafayette, IN*

2:30 - 4:30 pm
HYPHENATED MS TECHNIQUES IN METABOLITE ANALYSIS
Chair: Jonathan L. Josephs
500 Ballroom, lobby level

TOD pm 02:30 **Metabolite Identification with Mass Spectrometry: An Overview**; Cornelis Hop; *Pfizer, Groton, CT*

TOD pm 03:10 **An Integrated LC-MS-Microcoil NMR System with High Sensitivity for Rapid Structural Elucidation of Small Molecules from Complex Mixtures**; Yiqing Lin[1]; Jimmy Orjala[2]; Paul Vouros[1]; Roger Kautz[1]; *[1]Northeastern University, Barnett Institute, Boston, MA; [2]University of Illinois, College of Pharmacy, Chicago, IL*

TOD pm 03:30 **Detection of Circulating Metabolites of Carbamazepine in Microdosing Studies in Rats using LC-MS/MS**; Carmai Seto[1]; Jinsong Ni[3]; Fred Ouyang[3]; Robert Ellis[1]; Mauro Aiello[1]; Elliott B. Jones[2]; Devin Welty[3]; Andrew Acheampong[3]; *[1]Applied Biosystems/MDS SCIEX, Concord, Canada; [2]Applied Biosystems, Foster City, CA; [3]Allergan, Irvine, CA*

TOD pm 03:50 **Discovery and Identification of Low Level Drug Metabolites using a Novel Searching Method Combined with Exact Mass Measurement**; Andrew Pike[1]; Edgar Naegele[2]; Shaun Bilsborough[3]; *[1]Astex Therapeutics Ltd., Cambridge, United Kingdom; [2]Agilent Technologies GmbH, Waldbronn, Germany; [3]Agilent Technologies UK Ltd., Cheadle, United Kingdom*

TOD pm 04:10 **A New Strategy for Oxidative Metabolite Identification by QTRAP LC/MS: Use of Multiple Ion Monitoring-Dependent MS/MS Acquisition and Data Mining**; Ming Yao; Li Ma; William G Humphreys; Mingshe Zhu; *Bristol-Myers Squibb, Princeton, NJ*

2:30 - 4:30 pm
ION TRAP APPLICATIONS
Chair: Gavin E. Reid
Sagamore Ballroom 5-6-7, level two

TOE pm 02:30 **The Use of Ion Traps Alone and in Hybrid Configurations for Protein Identification, Characterization, and Quantification**; Steven P. Gygi[1]; Bryan A. Ballif[2]; Chunshui Zhou[1]; Stephen J. Elledge[1]; Corey E. Bakalarski[1]; Sean A. Beausoleil[1]; Xue Li[1]; Wilhelm Haas[1]; *[1]Harvard Medical School, Boston, MA; [2]University of Vermont, Burlington, VT*

TOE pm 03:10 **Electron Transfer Dissociation, Multi-Stage Activation and Neutral Loss Initiated MS3 utilized in the Characterization of Phosphorylation Sites of Human Kinases**; Martin Hornshaw[1]; Nick Morrice[2]; *[1]Thermo Electron, Hemel Hempstead, United Kingdom; [2]MRC Protein Phosphorylation Unit, Dundee, Scotland*

TOE pm 03:30 **H/D Exchange Levels of Gas Phase Cytochrome *c* Ions Excited in a Linear Quadrupole Ion Trap**; John Wright; D.J. Douglas; *University of British Columbia, Vancouver, Canada*

TOE pm 03:50 **Ion Traps and Glycoproteomics: Unraveling Complexities without Chromatography**; Vernon N. Reinhold; David Ashline; Tony Lapadula; Hailong Zhang; *University of New Hampshire, Durham, NH*

TOE pm 04:10 **Investigation of Phenyl Radicals' Reactions with Tetrapeptides via Laser-Induced Acoustic Desorption in a FT-ICR Mass Spectrometer**; Steven Habicht; Sen Li; John J. Nash; Hilkka I. Kenttamaa; *Purdue University, West Lafayette, IN*

2:30 - 4:30 pm
AMBIENT IONIZATION MASS SPECTROMETRY
Chair: Jon Williams
Sagamore Ballroom 3-4, level two

TOF pm 02:30 **Extending the Range of Applications for the DART Ion Source**; Robert B. Cody; *JEOL USA, Inc., Peabody, MA*

TOF pm 02:50 **The Helium Atmospheric Pressure Glow Discharge: a New Ionization Source for the Direct Analysis of Solids, Liquids and Gases**; Francisco J Andrade; Steven J Ray; Michael R Webb; Gary M Hieftje; *Department of Chemistry-Indiana University, Bloomington, IN*

TOF pm 03:10 **Desportion-Electrospray Ionization (DESI) Mass Spectrometry: Characterization of Plume and Droplet Interactions Towards Surface Imaging**; Gary A. Valaskovic; *New Objective, Inc., Woburn, MA*

TOF pm 03:30 **Simulation of Atmospheric Transport in Desorption Electrospray Ionization**; Anthony B. Costa; R. Graham Cooks; *Purdue University, West Lafayette, IN*

TOF pm 03:50 **Analysis of Complex Mixtures using an Atmospheric Solids Analysis Probe (ASAP) Mass Spectrometry**; Barbara S. Larsen; Chris Roe; Karen Block; Ken Dahl; Scott Jackson; Richard McKay; Charles N. Mcewen; *E I DuPont De Nemours, Wilmington, DE*

TOF pm 04:10 **Desorption Atmospheric Pressure Photoionization**; Tiina Kauppila[1]; Markus Haapala[1]; Jaroslav Pól[1]; Ville Arvola[1]; Ville Saarela[2]; Sami Franssila[2]; Raimo Ketola[1]; Tapio Kotiaho[1]; Risto Kostiainen[1]; *[1]University of Helsinki, Helsinki, Finland; [2]Helsinki University of Technology, Espoo, Finland*

2:30 - 4:30 pm
MASS SPECTROMETRY AND HOMELAND SECURITY
Chair: Paul D'Agostino
Sagamore Ballroom 1-2, level two

TOG pm 02:30 **Implementation of DART and DESI on a Fieldable Mass Spectrometer**; J. Mitchell Wells; Adam Keil; Garth E. Patterson; *Griffin Analytical Tech., LLC, West Lafayette, IN*

TOG pm 02:50 **Screening Organophosphorus Nerve Agent Degradation Products by Gas Chromatography with Inductively Coupled Plasma Mass Spectrometry**; Douglas D. Richardson; Joseph A. Caruso; *University of Cincinnati, Cincinnati , OH*

TOG pm 03:10 **Flow Injection Analysis with APCI-FAIMS-MS, ESI-FAIMS-MS, and APPI-FAIMS-MS for Rapid, Selective Identification of Chemical and Biological Warfare Agents in Food**; Beata Kolakowski[1]; Margaret A. McCooeye[1]; Zoltan Mester[1]; Paul A. D'Agostino[2]; *[1]National Research Council of Canada, Ottawa, Canada; [2]Defence Research and Development Canada, Suffield, Canada; [3]Canadian Food Inspection Agency, Saskatoon, Canada*

TOG pm 03:30 **Single Particle Aerosol Mass Spectrometry for the Determination of Chemical Warfare Agent Simulants**; George R. Farquar; Audrey N. Martin; David P Fergenson; Eric E. Gard; Matthias Frank; *Lawrence Livermore National Laboratory, Livermore, CA*

TOG pm 03:50 **Quantitative Comparison of *in vitro* Activity of Botulinum Neurotoxin Type A Subtypes by Mass Spectrometry**; Suzanne R. Kalb[1]; Theresa J. Smith[2]; James D. Marks[3]; Karen Hill[4]; Adrian R. Woolfitt[1]; James L. Pirkle[1]; Leonard A. Smith[2]; John R. Barr[1]; *[1]CDC, Atlanta, GA; [2]USAMRIID, Ft. Detrick, MD; [3]University of California at San Francisco, San Francisco, CA; [4]Los Alamos National Laboratory, Los Alamos, NM*

TOG pm 04:10 **MALDI-MS Detection of Biological Material from Collected Bioaerosols**; Alton Dugas; Kermit Murray; *Louisiana State University, Baton Rouge, LA*

4:45 – 5:30 pm
AWARD LECTURE
Exhibit Hall D, Lobby Level

Recipient of the ASMS Award for a Distinguished Contribution in Mass Spectrometry
Jesse L. (Jack) Beauchamp, *California Institute of Technology*
Ion Cyclotron Resonance for Studies of Ion-Molecule Reactions

5:45 – 7:00 pm
WORKSHOPS
See schedule on page 18.

WEDNESDAY MORNING, JUNE 6

7:30 – 8:15 am
WAKE UP COFFEE
Outside Exhibit Hall D

8:15 - 10:15 AM
TOP DOWN 2007:
TANDEM MASS SPECTROMETRY ABOVE 5 kDa
Chair: Neil L. Kelleher
Exhibit Hall D, lobby level

WOA am 08:15 **Top Down MS Proteomics: Now an Accepted Methodology?** Fred W. Mclafferty[1]; Honghai Jiang[1]; Xianglei Kong[1]; Kathrin Breuker[2]; *[1]Cornell University, Ithaca, NY; [2]University of Innsbruck, Innsbruck, Austria*

WOA am 08:35 **Top Down MS for Proteotyping Human Beings**; Michael Roth; Bryan A. Parks; Jonathan T. Ferguson; Craig D. Wenger; Neil L. Kelleher; *University of Illinois Urbana-Champaign, Urbana, IL*

WOA am 08:55 **Ultra-high Resolution Top Down Fourier-Transform Mass Spectrometry Experiments Reveal Microheterogeneity of Human Salivary Proteins**; Frederic, J. Halgand[1]; Sara Bassilian[1]; Puneet Souda[1]; Vlad Zabrouskov[2]; Joseph, A. Loo[3]; Kym, F. Faull[1]; David, T. Wong[4]; Julian, P. Whitelegge[1]; *[1]The Pasarow MS Laboratory, UCLA, Los Angeles, CA; [2]ThermoFisher Corp., San Jose, CA; [3]DOE, UCLA, Los Angeles, CA; [4]David Geffen School of Medicine, Los Angeles, CA*

WOA am 09:15 **A Sensitive Top Down and Middle Down Strategy for Analyzing Proteins using Electron Transfer Dissociation**; Namrata D. Udeshi; Yukiko Misawa; Kristie M. Lindsey Rose; An Chi; David Rekosh; Jeffrey Shabanowitz; Marie-Louise Hammarskjold; Donald F. Hunt; *University of Virginia, Charlottesville, VA*

WOA am 09:35 **Top-Down Terminal Sequencing with LC/ESI-TOF MS for the Characterization of Therapeutic IgG Antibodies**; Da Ren; Gary Pipes; David Hambly; Dirk Chelius; Pavel Bondarenko; Michael Treuheit; Himanshu Gadgil; *Amgen, Seattle, WA*

WOA am 09:55 **Top-Down Proteomics using Matrix Enhanced ISD**; Kevin Demeure; Loïc Quinton; Valérie Gabelica; Edwin De Pauw; *Liege University, Liege, Belgium*

8:15 - 10:15 AM
CARBOHYDRATE STRUCTURAL ANALYSIS: MS^N VS. ECD/EDD
Chair: Heather Desaire
Wabash Ballroom, lobby level

WOB am 08:15 **Development of Novel Tools for Mass Spectrometry-Based Carbohydrate Analysis**; Kristina Hakansson; Julie T. Adamson; Yibing Kong; Hye Kyong Kweon; Haichuan Liu; *University of Michigan, Ann Arbor, MI*

WOB am 08:35 **Sequential Mass Spectrometry and Accurate Mass Analysis: Uncovering Unique Structures in N-Linked Glycan Samples**; David Ashline; Anthony Lapadula; Vernon Reinhold; *The Glycomics Center, University of New Hampshire, Durham, NH*

WOB am 08:55 **Comparison of Fragmentation Patterns for Oligosaccharides Obtained with Various MS/MS Methods; Application to Structural Analysis of Unknown Oligosaccharides in Glycoproteins**; Bo Xie; Cheng Zhao; Giuseppe Infusini; Nancy Leymarie; Shiu-Yung Chan; Joseph Zaia; John F. Cipollo; Peter B. O'Connor ; Catherine E. Costello; *School of Medicine, Boston University, Boston, MA*

WOB am 09:15 **Structural Analysis of Chondroitin/Dermatan Sulfate Glycosaminoglycans from Human Decorin by Electrospray Ionization Multiple Stage Mass Spectrometry**; Daniela G. Seidler[1]; Corina Flangea[2]; Andrea Schneider[3]; Alina Serb[4]; Eugen Sisu[4]; Arnd Ingendoh[3]; Alina D. Zamfir[2]; *[1]University of Muenster, Muenster, Germany; [2]University "Aurel Vlaicu", Arad, Romania; [3]Bruker Daltonics, Bremen, Germany; [4]University of Medicine and Pharmacy, Timisoara, Romania*

WOB am 09:35 **Electron Detachment Dissociation Fourier Transform Mass Spectrometry of Negatively-Charged Oligosaccharides**; Jeremy J. Wolff[1]; Tatiana Larramore[2]; Robert J. Linhardt[2]; I. Jonathan Amster[1]; *[1]University of Georgia, Athens, GA; [2]Rensselaer Polytechnic Institute, Troy, NY*

WOB am 09:55 **Negative Ion Nanospray Mass Spectrometry for Rapid Identification of N-Glycans: Identification of New Structures in Several Species**; David J. Harvey[1]; Max D. M. Crispin[1]; Robert B. Sim[1]; Chris N. Scanlan[1]; Yun-Gon Kim[3]; Pauline M. Rudd[2]; Raymond A. Dwek[1]; *[1]University of Oxford, Oxford, United Kingdom; [2]Conway Institute, Dublin, Ireland; [3]Seoul National University, Seoul, Korea*

8:15 - 10:15 AM
MS CHARACTERIZATION OF 3D STRUCTURE
Chair: John R. Engen
Room 120-124, lobby level

WOC am 08:15 **SNAPPshots of Protein Folding: Monitoring Ligand-Induced Folding by Selective Noncovalent Adduct Protein Probing Mass Spectrometry**; Ryan R. Julian; Tony Ly; *University of California, Riverside, Riverside, CA*

WOC am 08:35 **Ion Mobility Mass Spectrometry and MS/MS of Non-Covalent Protein:Carbohydrate Complexes Indicate Conformational Differences**; Julie A. Leary[1]; Matthew Schenauer[1]; Iain Campuzano[2]; James Langridge[2]; *[1]UC Davis, Davis, CA; [2]Waters, Inc., Altrincham, United Kingdom*

WOC am 08:55 **DXMS Combined with *de novo* Protein Structure Prediction Facilitates Model Selection**; Lars Malmstroem; Liming Hou; William Atkins; David R. Goodlett; *University of Washington, Seattle, WA*

WOC am 09:15 **Footprinting Coupled to UPLC/MS/MS to Map the Interaction Surface between Tif34 and HisTif35 Proteins**; Fabio C Gozzo; Amadeu H Iglesias; *Brazilian Synchrotron Light Source, Campinas, Brazil*

WOC am 09:35 **Structure and Dynamics of Regulatory Domains Present in Retroviral RNA**; Arie Hawkins[1]; Eizadora T. Yu[2]; Daniele Fabris[1]; *[1]University of Maryland, Baltimore County, Baltimore, MD; [2]Sandia National Laboratories, Livermore, CA*

8:15 - 10:15 AM
MS CHARACTERIZATION OF 3D STRUCTURE continued

WOC am 09:55 **Protein Structure and Conformation Revealed using Sequential Cross-Linker Rate Measurements (SCRaM): Direct Measurement of Inter-Residue Distances and Secondary Structure**; Joseph Schoeniger; Richard Jacobsen; Kenneth Sale; *Sandia National Labs, Livermore, CA*

8:15 - 10:15 AM
METABOLITE IDENTIFICATION USING MS
Chair: Simon J. Gaskell
500 Ballroom, lobby level

WOD am 08:15 **Metabolic Changes in Plasma Revealed by Targeted MS of Patients Undergoing Planned Heart Attacks**; Ru Wei[1]; Gregory Lewis[2]; Marc S. Sabatine[2]; Emerson Liu[2]; Marco Cyrille[2]; Maryann Martinovic[2]; Laurie Farrell[2]; Xu Shi[2]; Aarti Asnani[2]; Arvind Ramanathan[1]; Oded Shaham[1]; Gabriel Berriz[3]; Frederick P. Roth[3]; Igor Palacios[3]; Vamsi K. Mootha[1]; Michael A. Fifer[2]; Steven A. Carr[1]; Robert E. Gerszten[2]; *[1]Broad Institute, Cambridge, MA; [2]Massachusetts General Hospital, Boston, MA; [3]Harvard Medical School, Boston, MA*

WOD am 08:35 **Metabolomics Biomarkers for Western Life Style Diseases and Anti-Diabetic Drug Action**; Klaus M. Weinberger; Steven L. Ramsay; Armin Graber; *Biocrates Life Sciences, Innsbruck, Austria*

WOD am 08:55 **Analysis of Isoprostane Biomarkers of Oxidative Stress using a Novel UPLC-LC/ESI-MS/MS Method**; Judit Sztaray; Sarah P. Young; Dora Il'yasova; David S. Millington; *Duke University Medical Center, Durham, NC*

WOD am 09:15 **Metabolic Analysis of Tumor Progression**; Norma H. Pawley; Munehiro Teshima; James P. Freyer; Clifford J. Unkefer; Pat J. Unkefer; *Los Alamos National Laboratory, Los Alamos, NM*

WOD am 09:35 **Application of Advanced Statistical Methods and Ion Mobility Mass Spectrometry to Metabonomic/Metabolomic Studies**; John Shockcor; Jose Castro-Perez; Michael Balogh; Kate Yu; *Waters Corp., Milford, MA*

WOD am 09:55 **Acyl-Coenzyme A Profiles In Wild Type and Short Chain Hydroxyacyl-CoenzymeA Dehydrogenase Defective Mouse Liver By Flow Injection Tandem Mass Spectrometry**; Jie Chen[1]; Srinivas Narayan[1]; Arnold Strauss[2]; Michael Bennett[1]; *[1]Children's Hospital of Philadelphia, Philadelphia, PA; [2]Vanderbilt University Medical Center, Nashville, TN*

8:15 - 10:15 AM
ESI OF SMALL MOLECULES
Chair: Nadja Cech
Sagamore Ballroom 5-6-7, level two

WOE am 08:15 **Highlights from Small Molecule Electrospray Mass Spectrometry**; Jack Henion; *Advion BioSciences, Inc, Ithaca, NY*

WOE am 08:35 **Stercobilin: A Possible Biomarker for Autism?** Troy D. Wood; Christopher L. Pennington; Yong-Seok Choi; *University at Buffalo, Buffalo, NY*

WOE am 08:55 **Exploration of the Equimolar Response Phenomenon in Ultra-Low Flow Nano Electrospray: Limits and Applications**; Lucas Utley[1]; Camelia Gliser[1]; Mike Lee[2]; Gary Valaskovic[3]; *[1]AstraZeneca Pharmaceuticals, Waltham, MA; [2]Milestone Development Services, Newtown, PA; [3]New Objective Inc., Woburn, MA*

WOE am 09:15 **Unusual Odd-electron Fragments from Even-Electron Protonated Alkylprodiginine Precursors using Positive Ion Electrospray Tandem Mass Spectrometry**; Kan Chen[1]; Yang Cai[2]; Bernard B. Rees[1]; Gregory L. Challis[3]; Richard B. Cole[1]; *[1]University of New Orleans, New Orleans, LA; [2]Children's Hospital, New Orleans, LA; [3]University of Warwick, Coventry, UK*

WOE am 09:35 **Metabolite Profiling by Use of Automated Chip Based Nanospray of Fractions Detected by Offline Scintillation Counting**; Jonathan L. Josephs[1]; Mary F. Grubb[1]; Gary A. Schultz[2]; *[1]Bristol-Myers Squibb, Pennington, NJ; [2]Advion, Ithaca, NY*

WOE am 09:55 **LC-MS-MS Determination of Antioxidant Activity of Catechins in Cocoa Powder**; Angela Calderon[1]; Richard B. van Breemen[1]; W. J. Hurst[2]; *[1]University of Illinois College of Pharmacy, Chicago, IL; [2]The Hershey Company, Hershey, PA*

8:15 - 10:15 AM
PORTABLE MS INSTRUMENTS
Chair: R. Tim Short
Sagamore Ballroom 3-4, level two

WOF am 08:15 **Atmospheric Pressure Interface for a Handheld Ion Trap Mass Spectrometer: Electrospray Ionization and Desorption Electrospray Ionization**; Adam Keil; Nari Tataly; Heriberto Hernandez; Robert Noll; Zheng Ouyang; R. Graham Cooks; *Purdue University, West Lafayette, IN*

WOF am 08:35 **Development of a Light-Weight Integrated Direct Analysis Mass Spectrometer**; Garth Patterson; John Grossenbacher; Mitch Wells; Adam Keil; Mark Gregory; Jason Springston; Dennis Barket; *Griffin Analytical Technologies, West Lafayette, IN*

WOF am 08:55 **Field Portable Toroidal Gas Chromatograph-Toroidal Ion Trap Mass Spectrometer System**; Samuel E. Tolley[1]; Jesse A. Contreras[2]; Jacolin A. Murray[2]; H. Dennis Tolley[2]; James R. Oliphant[1]; Stephen A. Lammert[1]; Edgar D. Lee[1]; Douglas W. Later[1]; Milton L. Lee[2]; *[1]Torion Technologies, Inc, Pleasant Grove, UT; [2]Brigham Young University, Provo, Utah*

8:15 - 10:15 AM
PORTABLE MS INSTRUMENTS continued

WOF am 09:15 **Mars Organic Molecule Analyzer (MOMA): An Investigation of the Potential for Life on Mars using Ion Trap Mass Spectrometry**; Theresa Evans-Nguyen[1]; Justin Muratore[1]; William Brinckerhoff[2]; Luann Becker[3]; Robert J. Cotter[1]; Vladimir Doroshenko[4]; *[1]Johns Hopkins University; Pharmacology, Baltimore, MD; [2]JHU - Applied Physics Laboratory, Laurel, MD; [3]The University of California at Santa Barbara, Santa Barbara, CA; [4]MassTech, Inc., Columbia, MD*

WOF am 09:35 **Demonstration of a Microfabricated Carbon Nanotube Ionization Source for a Miniaturized Mass Spectrometer**; Charles B Parker[1]; Srividya Natarajan[1]; Scott D Wolter[1]; Jeffrey T Glass[1]; Jeffrey R Piascik[2]; Kristin H Gilchrist[2]; Brian R Stoner[2]; Christopher A Bower[3]; *[1]Duke University, Durham, NC; [2]RTI International, Research Triangle Park, NC; [3]Semprius, Inc., Durham, NC*

WOF am 09:55 **Microfabrication of µ-Cylindrical Ion Trap Mass Spectrometer Arrays**; F.H.W. van Amerom[1]; A. Chaudhary[1]; R.T. Short[2]; *[1]University of South Florida, St Petersburg, FL; [2]SRI-St. Petersburg, St. Petersburg, FL*

8:15 - 10:15 AM
METAL ION ACTIVATED DISSOCIATION
Chair: Chrys Wesdemiotis
Sagamore Ballroom 1-2, level two

WOG am 08:15 **Histidine Radical Cation Isomer Control via Auxiliary Ligand (L) Selection in the Dissociation of $[Cu^{II}(L)(His)]^{dot2+}$ Complexes**; Yuyong Ke; Junfang Zhao; Udo H. Verkerk; Alan C. Hopkinson; K. W. Michael Siu; *York University, Toronto, Canada*

WOG am 08:35 **Gas-Phase Ionic Solutions**; Bridgette J. Duncombe[1]; Khadar Duale[2]; Bohan Wu[2]; Annabelle Buchanan-Smith[2]; Anthony J. Stace[2]; *[1]University of Edinburgh, Edinburgh, United Kingdom; [2]University of Nottingham, Nottingham, United Kingdom*

WOG am 08:55 **Suppression of Oligonucleotide Fragmentation in MALDI-MS through Sodium Adduct Formation**; Oddur Ingolfsson; Michal Stano; Helga Dogg Flosadottir; *University of Iceland, Reykjavik, Iceland*

WOG am 09:15 **Gas-Phase Behavior of Singly and Doubly-Charged Coppered Peptide Complexes toward Low Energy Collisions**; Carlos Afonso; Françoise Fournier; Jean-claude Tabet; *University P. and M. Curie, Paris Cedex O5 , France*

WOG am 09:35 **Metal Ion Binding Affinities and Activation of Phosphate Esters Studied by Threshold Collision-Induced Dissociation and Ab Initio Theory**; Mary T. Rodgers; Chunhai Ruan; Hai Huang; *Wayne State University, Detroit, MI*

WOG am 09:55 **Energetics and Dynamics of Electron Transfer and Proton Transfer in Dissociation of $Metal^{III}$ (salen)-Peptide Complexes in the Gas-Phase**; Julia Laskin[1]; Zhibo Yang[1]; Corey Lam[2]; Ivan Chu[2]; *[1]Pacific Northwest National Laboratory, Richland, WA; [2]University of Hong Kong, Hong Kong, China*

10:15 am – 2:30 pm
POSTER SESSION AND EXHIBITS

7:30 – 8:00 am ..... Set up Wednesday posters (page 95)
10:15 am – 2:30 pm .....All Wednesday poster authors present
11:45 am – 12:15 pm ..... Lunch break for odd-numbered posters
12:15 – 12:45 pm .....Lunch break for even-numbered posters
7:30 – 8:00 pm ..... Remove all Wednesday posters

12:45 – 2:00 pm
INTEREST GROUP MEETING AND WORKSHOP
See schedule on page 18.

WEDNESDAY AFTERNOON

2:30 - 4:30 PM
DISCOVERING PEPTIDES AND PROTEINS AS BIOMARKERS
Chair: Michael Siu
Exhibit Hall D, Lobby Level

WOA pm 02:30 **A Novel Multiplexed Quantitative Proteomics Platform for the Systematic Discovery of Salivary Biomarkers for Early Detection of Oral Cancer**; Timothy J. Griffin[1]; Hongwei Xie[1]; Getiria Onsongo[1]; Archana Mohan[1]; Jonathan Popko[1]; John V. Carlis[1]; Robert J. Griffin[2]; Frank G. Ondrey[1]; Nelson L. Rhodus[1]; *[1]University of Minnesota, Minneapolis, MN; [2]University of Arkansas for Medical Sciences, Little Rock, AR*

WOA pm 02:50 **Glycoprotein Microarrays with Multi-Lectin Detection: Lectin Binding Patterns as a Tool for Classifying Normal, Chronic Pancreatitis and Pancreatic Cancer Sera**; David M. Lubman; Tasneem H. Patwa; Jia Zhao; David E. Misek; Michelle A. Anderson; Diane M. Simeone; *University of Michigan, Ann Arbor, MI*

WOA pm 03:10 **Discovery and Verification of Potential Cancer Biomarkers: An Integration of QqTOF, Multiple-Reaction Monitoring and Immunohistochemistry**; Adrian M. Taylor; Leroi Desouza; K.W. Michael Siu; *York University, Toronto, Canada*

WOA pm 03:30 **The Transition from Global Proteomics to Targeted MRM Analysis for Validation of Changes in hESCs During Noggin- and BMP4-Induced Differentiation**; Anastasia K. Yocum[1]; Christy L. Hunter[2]; K. Sue O'Shea[1]; Philip C. Andrews[1]; *[1]University of Michigan, Ann Arbor, MI; [2]Applied Biosystems, Foster City, CA*

WOA pm 03:50 **In-Depth Profiling of the Cerebrospinal Fluid Peptidome and Proteome - a Quest for Potential Regulatory Neuropeptides and Biomarkers**; Alexandre Zougman[1]; Chanchal Kumar[1]; Alexandre Podtelejnikov[2]; Matthias Mann[1]; *[1]Max-Planck Institute for Biochemistry, Martinsried, Germany; [2]proxeon Biosystems, Odense, Denmark*

WOA pm 04:10 **Comparison of Three Mass Spectrometry-Based Strategies for Targeted Protein Pullout**; Margareta Ramström; Karin Larsson; Mathias Uhlén; Henrik Wernérus; Sophia Hober; *Royal Institute of Technology, Stockholm, Sweden*

2:30 - 4:30 PM
METABOLITE IDENTIFICATION: BEYOND DRUG DISCOVERY
Chair: Ragu Ramanathan
Wabash Ballroom, lobby level

WOB pm 02:30 **Early Assessment of Human Metabolism: Why, How, Challenges and Opportunities**; Swapan K. Chowdhury; *Schering-Plough, Kenilworth, NJ*

WOB pm 03:10 ***In vitro* Metabolism of the ERBB2 Receptor Tyrosine Kinase Inhibitor: Identification of Metabolites by LC/MS/MS, LC-NMR and Wet Chemistry Techniques**; Chandra Prakash; Zhuang Miao; Jie Chen; Samit Bhattacharya; Thomas O"Connell; *Pfizer, Groton, CT*

WOB pm 03:30 **Ion Mobility Mass Spectrometry a Powerful Tool for Removal of Endogenous Interferences for Metabolite Profiling**; Jose Castro-Perez[1]; John Shockcor[1]; Kate Yu[1]; Kevin Bateman[2]; *[1]Waters Corp., Milford, MA; [2]Merck Frosst, Kirkland, Montreal*

WOB pm 03:50 **Comparison of DART Ionization to Traditional LC/MS Methods for the Analysis of Metabolites in Human Urine**; Jennifer L. Seymour; Amy Wang; Michael Morris; Abigail Marcus; John Kratz; Eric Yang; Tom Neiss; *GlaxoSmithKline, King of Prussia, PA*

WOB pm 04:10 **A Statistical Based Approach in Metabolite Identification by High Mass Accuracy MSn Analysis**; Gérard Hopfgartner [1]; Lekha Sleno[1]; Neil Loftus[2]; John Warrander[2]; Simon Ashton[2]; *[1]Life Sciences Mass Spectrometry, Geneva, Switzerland; [2]Shimadzu ISS, Manchester, United Kingdom*

2:30 - 4:30 PM
CHARACTERIZING BIOPOLYMER CONFORMATIONS AND DYNAMICS
Chair: Robert Hettich
Room 120-124, lobby level

WOC pm 02:30 **Hydrogen / Deuterium Exchange and Crystallography Reveal that Protein Dynamics and Structure Control PPAR Gamma Mediated Transcriptional Activity**; Michael J. Chalmers; John B. Bruning; Scott A. Busby; Swati Prasad; Bruce D. Pascal; Mark R. Southern; Kendal W. Nettles; Patrick R. Griffin; *Scripps Florida, Jupiter, FL*

WOC pm 02:50 **Analysis of Structure in Refolding Intermediates of Indole-3-Glycerol Phosphate Synthase (sIGPS), a TIM Barrel Protein, by Hydrogen Exchange Mass Spectrometry**; Zhenyu Gu; Jill A.Zitzewitz; C.Robert Matthews; *University of Massachusetts, Medical School., Worcester, MA*

WOC pm 03:10 **Conformation-Specific Characterization of Protein Higher Order Structure using Hydrogen Exchange and Tandem Mass Spectrometry**; Rinat R. Abzalimov; Igor A. Kaltashov; *University of Massachusetts, Amherst, MA*

WOC pm 03:30 **Combining H/D Exchange and Native Electrospray Mass Spectrometry for Unraveling the Unfolding Mechanism of B.subtilis NAD Synthase**; Anton Poliakov; Irina Protasevich; Peter E Prevelige; Christie Brouilette; *University of Alabama at Birmingham, Birmingham, AL*

WOC pm 03:50 **Oxidative Surface Mapping Generates Biophysical Constraints for Molecular Dynamics Simulations: An Integrated Strategy for Studying the Tanford Transition in Beta-Lactoglobulin**; Carlee McClintock[1]; Kanan Vyas[2]; Christine Shook[2]; Robert L. Hettich[1]; *[1]Oak Ridge National Lab, Oak Ridge, TN; [2]University of Tennessee, Knoxville, TN*

WOC pm 04:10 **Mapping the Structure and Dynamics of Dark-And Light-State Bovine Rhodopsin by Synchrotron Radiolysis and High Resolution Mass Spectrometry**; Sayan Gupta; Beata Jastrzebska; Rhijuta D'Mello; Krzysztof Palczewski; Mark Chance; *CWRU, Cleveland, OH*

2:30 - 4:30 PM
MS CHARACTERIZATION OF MEMBRANE PROTEINS
Chair: R. Marshall Pope
500 Ballroom, lobby level

WOD pm 02:30 **Tracking the Movement of Proteins between Sub-Cellular Structures by Dynamic LOPIT**; Kathryn S Lilley[1]; Denise J. L. Tan[1]; Alfonso Martinez Arias[1]; Paul Bertone[2]; Heidi Dvinge[2]; *[1]University of Cambridge, Cambridge, United Kingdom; [2]EMBL-european Bioinformatics Institute, Cambridge, UK*

WOD pm 02:50 **A Proteomic Method for the Enrichment of Membrane Embedded Proteins and Identification of Transmembrane Domains**; Adele Blackler[1]; Mark Ladinsky[2]; Jessica Krank[1]; Robert Murphy[1]; Christine Wu[1]; *[1]University of Colorado HSC, Aurora, CO; [2]University of Colorado Boulder, Boulder, CO*

WOD pm 03:10 **Microheterogeneity of Integral Membrane Proteins Resolved by Top-Down Fourier-Transform Mass Spectrometry;** Julian Whitelegge; Frederic Halgand; Sara Bassilian; Puneet Souda; Kym Faull; *University of California LA, Los Angeles, CA*

WOD pm 03:30 **Targeted MS Analysis of β-Cell Surface Proteins**; Alexander Schmidt[1]; Lukas Mueller[1]; Nils Gehlenborg[2]; Katrin Eckhardt[3]; Carsten Danzer[3]; Bernd Wollscheid[1]; Bruno Domon[1]; Ruedi Aebersold[1]; *[1]Institute of Molecular Systems Biology, ETH, Zurich, Switzerland; [2]European Bioinformatics Institute, Cambridge, UK; [3]Institute of Cell Biology, ETH, Zurich, Switzerland*

WOD pm 03:50 **High Fidelity for Intact Analysis of Hydrophobic Proteins**; Mahbod R. Hajivandi; Xiquan Liang; Marshall Pope; *Invitrogen, Mass Spectrometry, R & D, Carlsbad, CA*

WOD pm 04:10 **Identifying Peptides with Higher Order Charge-States: An Optimized Approach for Characterizing Membrane Proteins**; Scott A. Shaffer; Alexander Scherl; Byron Gallis; Jocelyn Aker; Gregory Taylor; Mitchell Brittnacher; David R. Goodlett; *University of Washington, Seattle, WA*

2:30 - 4:30 PM
PEPTIDE ION FRAGMENTATION MECHANISMS: CID AND ECD
Chair: Julia Laskin
Sagamore Ballroom 5-6-7, level two

WOE pm 02:30 **Gas Phase Peptide Fragmentation: From Understanding the Fundamentals to the Design of New Proteomics Tools;** Richard A. J. O'Hair; *University of Melbourne, Victoria, Australia*

WOE pm 02:50 **Characterizing the Fragmentation Behavior of Glycosylated Peptide Ions Derived from Non-specific Proteolysis**; Richard R. Seipert; Eric D. Dodds; Brian H. Clowers; Sean Beecroft; Carlito B. Lebrilla; *University of California Davis, Davis, CA*

WOE pm 03:10 **Combination of CID and SID with H/D Exchange to Probe the Gas-Phase Intramolecular Rearrangement Process of Protonated Peptides**; Asiri Galhena; Arpad Somogyi; Brittany Perkins; Vicki. H. Wysocki; *University of Arizona, Tucson, AZ*

WOE pm 03:30 **Generation and Dissociation of Cationic and Anionic Radical Peptides**; Ivan K. Chu[2]; Corey N.W Lam[2]; Zhibo Yang[1]; Julia Laskin[1]; *[1]Pacific Northwest National Laboratory, Richland, WA; [2]The University of Hong Kong, Hong Kong, China*

WOE pm 03:50 **Dissociations of β-Alanine Radicals following Femtosecond Electron Transfer**; Frantisek Turecek; *University of Washington, Seattle, WA*

WOE pm 04:10 **Sources of Variation in VUV Photofragmentation Studies of Peptide Ions**; Matthew S. Thompson; James P. Reilly; *Indiana University, Bloomington, IN*

2:30 - 4:30 PM
NOVEL MASS SPECTROMETRY INSTRUMENTATION
Chair: Steve Lammert
Sagamore Ballroom 3-4, level two

WOF pm 02:30 **Utilizing an Electrospray Membrane Probe to Explore Fundamental Mechanisms underlying Electrospray Ionization in Mass Spectrometry**; Craig M. Whitehouse; Thomas P. White; *Analytica of Branford, Inc., Branford, CT*

WOF pm 02:50 **A Gas Ion Separator for Improved Collection of Ions Desorbed from Surfaces at Ambient Pressure**; Brian Musselman; Joseph Tice; Elizabeth Crawford; Douglas Simmons; *IonSense, Inc., Saugus, MA*

WOF pm 03:10 **Structure and Performance of PCB Ion Trap Mass Spectrometer(PCBITMS)**; Gong-Yu Jiang[1]; Xiao-Xu Li[1]; An Hu[1]; Chan Luo[1]; Peng Yang[1]; Xian-Nian Liu[1]; Zi-Guo Dai[1]; Fu-Xing Xu[1]; Li Ding[2]; Chuan-Fan Ding[1]; *[1]Chemistry Dept., Fudan University, China, Shanghai, China; [2]Shimadzu Research Laboratory (Europe), Manchester, United Kingdom*

WOF pm 03:30 **The Halo Ion Trap Mass Analyzer**; Daniel E. Austin[1]; Miao Wang[1]; Samuel E. Tolley[2]; Aaron R. Hawkins[1]; Alan L. Rockwood[3]; Edgar D. Lee[2]; H. Dennis Tolley[1]; Milton L. Lee[1]; *[1]Brigham Young University, Provo, UT; [2]Torion, Provo, UT; [3]ARUP Inst. for Clinical and Experimental Pathology, Salt Lake City, UT*

WOF pm 03:50 **Pressure-Insensitive Bipolar Ion Detector (BID) Based on Sequential Conversion Reaction**; Yi-sheng Wang; Ming-Hsin Li; Chung-Hsuan Chen; Yuan Tseh Lee; *Academia Sinica, Taipei, TAIWAN*

WOF pm 04:10 **Multiplexed Ion Mobility Spectrometry - Orthogonal Time-of-Flight Mass Spectrometry**; Mikhail Belov; Richard Smith; *Pacific Northwest National Laboratory, Richland, WA*

2:30 - 4:30 PM
MS IN ELEMENTAL & METALLOMIC ANALYSES
Chair: David W. Koppenaal
Sagamore Ballroom 1-2, level two

WOG pm 02:30 **Isotope Dilution Laser Ablation ICP-MS for Direct and Accurate Determination of Trace Elements in Powdered Coal Samples**; Klaus G. Heumann[1]; Sergei Boulyga[2]; Jens Heilmann[1]; *[1]University of Mainz, Mainz, Germany; [2]University of Natural Resources, Vienna, Austria*

WOG pm 02:50 **Development of an Inductively Coupled Plasma/Electrospray Ionization Dual-Source Time-of-Flight Mass Spectrometer for Rapid Speciation and Metallomic Analysis**; Duane A. Rogers; Steven J. Ray; Gary M. Hieftje; *Indiana University, Bloomington, IN*

WOG pm 03:10 **Resonance Ionization Mass Spectrometry Analysis of Elemental Concentrations in Solar Wind Collectors of the Genesis Spacecraft**; Igor Veryovkin[1]; Emil Tripa[1]; Michael Savina[1]; Michael Pellin[1]; Donald Burnett[2]; *[1]Argonne National Laboratory, Argonne, IL; [2]California Institute of Technology, Pasadena, CA*

WOG pm 03:30 **Molecular Characterization and Reactivity of Dissolved Organic Matter along a River to Ocean Transect by High Resolution Electrospray Ionization FT-ICR-MS**; Rachel L. Sleighter; Susan A. Hatcher; Patrick G. Hatcher; *Old Dominion University, Norfolk, VA*

WOG pm 03:50 **Nano-Electrospray Ion Mobility Separations On-Line with Inductively Coupled Plasma Mass Spectrometry for Detecting Metal-Containing Biomolecules (8 kDa to 80 MDa)**; Spiros Pergantis; *University of Crete, Heraklion, Greece*

WOG pm 04:10 **Coupling of an Atmospheric-Pressure Glow Discharge to a Mattauch-Herzog Mass Spectrograph with Faraday-Strip Array Multichannel Detection**; Gregory D. Schilling[1]; Francisco J. Andrade[1]; Steven J. Ray[1]; Roger P. Sperline[2]; M. Bonner Denton[2]; Charles J. Barinaga[3]; David W. Koppenaal[3]; Gary M. Hieftje[1]; *[1]Indiana University, Bloomington, IN; [2]University of Arizona, Tucson, AZ; [3]Pacific Northwest National Laboratory, Richland, WA*

4:45 – 5:30 pm
AWARD LECTURE
Recipient of the Biemann Medal
Exhibit Hall D, Lobby Level

Roman Zubarev, *Uppsala University*
Electron Capture Dissociation for MS/MS

5:30 – 6:00 pm
ASMS MEETING, Raffle, Wine, Beer
Exhibit Hall D, Lobby Level

7:30 – 8:15 am
WAKE UP COFFEE
Outside Exhibit Hall D

8:15 - 10:15 am
MS STRATEGIES IN THE DETERMINATION OF PHOSPHORYLATION SITES
Chair: Pierre Thibault
Exhibit Hall D, Lobby Level

ThOA am 08:15 **Phosphopeptide Analysis by Mass Spectrometry: Trends, Technologies and Challenges**; Ole N. Jensen; *Univ. of Southern Denmark, Odense, Denmark*

ThOA am 08:35 **Detection of Protein Phosphorylation Sites using γ[$^{18}O_4$]-ATP and Mass Spectrometry**; Timothy D. Veenstra[1]; Zhaojing Meng[1]; Andrew G. Jobson[2]; Yves Pommier[2]; Ming Zhou[1]; *[1]SAIC-Frederick, Frederick, MD; [2]National Cancer Institute, Bethesda, MD*

ThOA am 08:55 **Quantitative Proteomics for Protein Complex Study: Determination of True Protein Partners and Characterization of their Phosphorylation Sites;** Delphine Pflieger[1]; Martin Juenger[2]; Markus Mueller[2]; Oliver Rinner[2]; Hookeun Lee[2]; Peter Gehrig[3]; Ruedi Aebersold[2]; *[1]LAMBE, CNRS, EVRY, France; [2]Institute for Molecular Systems Biology, ETH, Zürich, Switzerland; [3]FGCZ, University of Zürich, Zürich, Switzerland*

ThOA am 09:15 **Enrichment and Characterization of Histone H1 Phosphorylation Isoforms in Chemoprevention of Acute Myeloid Leukemia**; Liwen Wang; Chen Ren; Shujun Liu; Hua Xu; Guido Marcucci; Michael A Freitas; *Ohio State University, Columbus, OH*

ThOA am 09:35 **A New Phosphoproteomic Strategy – Separation of Mono- from Multi-Phosphorylated Peptides Combined with Optimized MS3 mass Spectrometric Analysis**; Tine E. Thingholm; Ole N. Jensen; Martin R. Larsen; *University of Southern Denmark, Odense, Denmark*

ThOA am 09:55 **The Cell Cycle Dependent Phosphoproteome and Proteome Analyzed by Quantitative Proteomics**; Jesper V. Olsen; Michiel Vermeulen; Anna Santamaria; Florian Gnad; Chanchal Kumar; Jürgen Cox; Erich A. Nigg; Matthias Mann; *Max-Planck-Institute for Biochemistry, Martinsried (near Munich), Germany*

8:15 - 10:15 am
NEW ADVANCES IN CLINICAL MASS SPECTROMETRY
Chair: David S. Millington
Wabash Ballroom, lobby level

ThOB am 08:15 **Global NanoLC Microchip Profiling of Human Serum Oligosaccharides**; Caroline S. Chu[1]; Milady R. Niñonuevo[1]; Patrick D. Perkins[2]; Hongfeng Yin[2]; Kevin Killeen[2]; Rudolf Grimm[2]; Carlito B. Lebrilla[1]; *[1]University California, Davis, Davis, CA; [2]Agilent Technologies, Santa Clara, CA*

ThOB am 08:35 **Large-scale Identification of Exfoliated Cellular Proteins in Whole Saliva from Oral Cancer Patients via Value-Added Three-Dimensional Peptide Separation and MS/MS**; Hongwei Xie[1]; Getiria Onsongo[1]; Jonathan Popko[1]; John V. Carlis[1]; Robert J. Griffin[2]; Nelson L. Rhodus[1]; Timothy J. Griffin[1]; *[1]University of Minnesota, Twin Cities, Minneapolis, MN; [2]University of Arkansas for Medical Sciences, Little Rock City, AK*

ThOB am 08:55 **Quantitative Analysis of Five HIV-1 Protease Inhibitors in Cell Lysates by MALDI-FTICR Mass Spectrometry**; Jeroen J.A. van Kampen[2]; Peter C. Burgers[2]; Ronald de Groot[1]; Albert D.M.E. Osterhaus[2]; Esther J. Verschuren[2]; Rob A. Gruters[2]; Theo M. Luider[2]; *[1]UMC st. Radboud, Nijmegen, the Netherlands; [2]Erasmus Medical Center, Rotterdam, the Netherlands*

ThOB am 09:15 **Biosynthesis of [U-^{15}N]labeled Deoxycytosine and Methyldeoxycytosine for Use as Internal Standards for Determining Percentage DNA Methylation by LC-MS/MS**; Eoin P Quinlivan; Jesse F Gregory; *University of Florida, Gainesville, FL*

ThOB am 09:35 **Detection, Characterization, and Monitoring of Emerging Influenza Virus Genotypes by Mass Spectrometry**; Steven Hofstadler; Ranga Sampath; Vanessa Harpin; Christian Massire; Larry Blyn; Mark Eshoo; Thomas Hall; Amy Schink; Jared Drader; James Hannis; Maria Tobarmosquera; David Ecker; *IBIS Biociences, Carlsbad, CA*

ThOB am 09:55 **Measuring Endogenous Estrogens and Estrogen Metabolites in Human Peritoneal Fluid by Liquid Chromatography-Tandem Mass Spectrometry**; Xia Xu[1]; Essam el-dine R. Othman[2]; Daniela Hornung[3]; Ayman Al-Hendy[2]; Timothy D. Veenstra[1]; *[1]SAIC-Frederick, Frederick, MD; [2]University of Texas Medical Branch, Galveston, TX; [3]University of Schleswig-Holstein, Lüebeck, Germany*

8:15 - 10:15 am
NON-COVALENT INTERACTIONS
Chair: Mary T. Rodgers
Room 120-124, lobby level

ThOC am 08:15 **Noncovalent Interactions between Alkali Cations and Amino Acids: Effects of the Side Chain**; Peter B. Armentrout; Amy Heaton; Sha Ye; Robert M. Moision; Amy Clark; *University of Utah, Salt Lake City, UT*

ThOC am 08:35 **Experimental and Theoretical Studies of the Structures and Interactions of Vancomycin Antibiotics with Cell Wall Analogues Peptides**; Zhibo Yang; Julia Laskin; *Pacific Northwest National Laboratory, Richland, WA*

ThOC am 08:55 **Mass Spectrometry, Electron Affinities and Non-Covalent Interactions of DNA Bases and Base Pairs;** Edward C Chen; Edward S. Chen; *University of Houston, Houston, TX*

ThOC am 09:15 **Noncovalent Binding Constants Determined by Mass Spectrometric Methods: Current Status, Limitations, and Future Prospects**; Renato Zenobi; Cédric Bovet; Matthias Jecklin; Sonal Mathur; David Touboul; Arno Wortmann; *ETH Zurich, Zurich, Switzerland*

ThOC am 09:35 **Detection and Quantification of siRNA Double Strands by MALDI-MS**; Michael Karas[1]; Ute Bahr[1]; Hüseyin Aygün[2]; *[1]JW Goethe Univ. of Frankfurt, Frankfurt am Main, Germany; [2]BioSpring, Frankfurt, Germany*

8:15 - 10:15 am
NON-COVALENT INTERACTIONS continued

ThOC am 09:55 **Equivalency of Binding Sites in Protein-Ligand Complexes Revealed by Time-Resolved Tandem Mass Spectrometry**; Glen K. Shoemaker[1]; Elena N. Kitova[1]; Monica M. Palcic[2]; John S. Klassen[1]; *[1]University of Alberta, Edmonton, Canada; [2]Carlsberg Laboratory, Copenhagen, Denmark*

8:15 - 10:15 am
ANALYSIS OF REACTIVE METABOLITES BY MS
Chair: Ian A. Blair
500 Ballroom, lobby level

ThOD am 08:15 **Reactive Metabolites and Mass Spectrometry: Detection and Identification over the Past 10 Years**; Elizabeth M. Joshi; *Eli Lilly and Company, Indianapolis, IN*

ThOD am 08:35 **Studying the Mechanism of Protein Covalent Binding of Fipexide via Reactive Metabolites by Mass Spectrometry**; Lekha Sleno; Gérard Hopfgartner; *University of Geneva, Geneva, Switzerland*

ThOD am 08:55 **Rapid and Sensitive Screening of GSH-Trapped Reactive Metabolites using MRM-Dependent MS/MS Scan on a Triple Quadruple-Linear Ion Trap Mass Spectrometer**; Joanna Zheng; Li Ma; Baomin Xin; Timothy Olah; W. Griffith Humphreys; Mingshe Zhu; *PCO, Bristol-Myers Squibb, Princeton, NJ*

ThOD am 09:15 **LC/MS Analysis of Reactive Metabolites from Cyclooxygenase-2-Mediated Arachidonic Acid Metabolism**; Seon HWA Lee[1]; Michelle V. Williams[2]; Angela Wehr[1]; Kannan Rangiah[1]; Ian A. Blair[1]; *[1]Univ. of Pennsylvania, Cntr. Cancer Phar, Philadelphia, PA; [2]Massachusetts Institute of Technology, Cambridge, MA*

ThOD am 09:35 **Characterization of Protein Adducts of Sulfuryl Fluoride with Albumin Protein in the Male F344 Rat via PESI-LC/MS/MS**; Fagen Zhang[1]; Michael Bartels[1]; David L. Rick[1]; Dave L. Eisenbrandt[2]; *[1]Dow Chemical, Midland, MI; [2]Dow AgroSciences, Indianapolis, IN*

ThOD am 09:55 **Iron-Catalyzed Oxidation of ApoB-100 in Low Density Lipoproteins *in vitro* Is Selective for Production of Kynurenines from WE Sequences**; Charles V. Smith[1]; Hsin-hung Chen[2]; Ching-Yi Chen[3]; Lu-Ping Chow[4]; Hsu-Ching Hsu[3]; Yuan-Teh Lee[3]; Chao-yuh Yang[2]; *[1]Seattle Children's Hospital Research Institute, Seattle, WA; [2]Baylor College of Medicine, Houston, TX; [3]National Taiwan University Hospital, Taipei, Taiwan; [4]National Taiwan University, Taipei, Taiwan*

8:15 - 10:15 am
ION MOBILITY SPECTROMETRY: NEW DEVELOPMENTS IN BIOANALYTICAL APPLICATIONS
Chair: John A. McLean
Sagamore Ballroom 5-6-7, level two

ThOE am 08:15 **Ion Mobility: The Method and Recent Applications**; Michael T. Bowers; *University of California, Santa Barbara, CA*

ThOE am 08:55 **Applications of Ion Mobility/Mass Spectrometry in Pharmaceutical and Bioanalysis**; Colin S. Creaser[1]; Emma L. Harry[1]; Mark D. Howdle[1]; Natali Budimir[1]; Daniel J. Weston[1]; Christine Eckers[2]; Alice Laures[2]; Anthony W.T. Bristow[34]; Ian D. Wilson[34]; *[1]Nottingham Trent University, Nottingham, United Kingdom; [2]GlaxoSmithKline, Stevenage , United Kingdom; [3]AstraZeneca, Macclesfield, United Kingdom; [4]AstraZeneca, Alderley Edge, United Kingdom*

ThOE am 09:15 **Enhancing Imaging Mass Spectrometry with Ion Mobility**; Whitney B. Ridenour; Richard M. Caprioli; John A. McLean; *Vanderbilt University, Nashville, TN*

ThOE am 09:35 **DNA Nanostructures in the Gas Phase;** Marvin M Seibert[1]; Michael J Bogan[2]; *[1]Uppsala Universitet, Uppsala, Sweden; [2]Lawrence Livermore National Laboratory, Livermore, CA*

ThOE am 09:55 **Ion Mobility-Mass Spectrometry of Large Protein Complexes: from Activated Ions to Polydisperse Assemblies**; Brandon T. Ruotolo; Suk-Joon Hyung; Justin L.P. Benesch; Carol V. Robinson; *University of Cambridge, Department of Chemistry, Cambridge, United Kingdom*

8:15 - 10:15 am
FTMS INSTRUMENTATION
Chair: Ryan M. Danell
Sagamore Ballroom 3-4, level two

ThOF am 08:15 **Recent Advances in FT-ICR Mass Spectrometry Instrumentation**; David C. Muddiman; *North Carolina State University, Raleigh, NC*

ThOF am 08:55 **Iterative Accumulation Multiplexing of ESI-Generated Ions on a Fourier Transform Ion Cyclotron Resonance Mass Spectrometer**; Jared Bushey[1]; Gary Glish[1]; Ryan Danell[2]; *[1]University of North Carolina at Chapel Hill, Chapel Hill, NC; [2]Danell Consulting, Greenville, NC*

ThOF am 09:15 **What to Do with Peptide CID Fragments?** Alexander Scherl[1]; Scott A. Shaffer[1]; Gregory K. Taylor[1]; Patricia Hernandez[2]; Ron D. Appel[2]; Pierre-Alain Binz[3]; David R. Goodlett[1]; *[1]University of Washington, Dpt. Medicinal Chemistry, Seattle, WA; [2]Swiss Institute of Bioinformatic, Geneva, Switzerland; [3]GeneBio SA, Geneva, Switzerland*

ThOF am 09:35 **Pushing Intact Protein Detection Limits of the Orbitrap Mass Analyzer**; Eduard Denisov; Kerstin Strupat; Alexander Makarov; Vlad Zabrouskov; *ThermoFisher Scientific (Bremen) GmbH, Bremen, Germany*

8:15 - 10:15 am
FTMS INSTRUMENTATION continued

ThOF am 09:55 **Automating a 12 Tesla FTMS for High-Throughput Tandem Mass Spectrometry above 10 kDa**; Dana E. Robinson; Craig D. Wenger; Bryan A. Parks; Michael T. Boyne II; Lihua Jiang; Richard D. LeDuc; Paul M. Thomas; Neil L. Kelleher; *University of Illinois, Urbana, IL*

8:15 - 10:15 am
CHARACTERIZING EMERGING ENVIRONMENTAL CONTAMINANTS WTH MS
Chair: Mehran Alaee
Sagamore Ballroom 1-2, level two

ThOG am 08:15 **Comparison of LC/QQQ and LC/TOF-MS for the Analysis of 100 Pesticides in Food and Water: Finding the "Crossover Point"**; Earl Michael Thurman[1]; Imma Ferrer[2]; Yanyan Fang[3]; Paul Zavitsanos[4]; Jerry A. Zweigenbaum[4]; *[1]Costacabana Mass Spectrometry Group, Almeria, Spain; [2]University of Almeria, Almeria, Spain; [3]Agilent Technologies, Inc., Beijing, China; [4]Agilent Technologies, Inc, Wilmington, DE*

ThOG am 08:35 **Determination of b-Blockers in Environmental Waters by Molecularly Imprinted Polymers followed by Advanced Liquid Chromatography- Tandem Mass Spectrometry (Qq-LIT)**; Damià Barceló; Mira Petrovic; Meritxell Gros; *IIQAB-CSIC, Environmental Chemistry Department, Barcelona, Spain*

ThOG am 08:55 **Trace Analysis of Antidepressant Pharmaceuticals and Selected Degradates in Environmental Matrices by LC/ESI/MS/MS**; Melissa M. Schultz[1]; Edward T. Furlong[23]; Dana W. Kolpin[23]; *[1]The College of Wooster, Wooster, OH; [2]U.S. Geological Survey, Denver, CO; [3]U.S. Geological Survey, Iowa City, IA*

ThOG am 09:15 **Solvent Effects in Electrospray Ionization of Naphthenic Acids from Athabasca Oil Sands**; John V Headley[1]; Kerry M. Peru[1]; Mark P. Barrow [2]; Peter J. Derrick[2]; *[1]Environment Canada, Saskatoon, Canada; [2]Inst Mass Spect. Dept.of Chemistry University of W, Coventry, United Kingdom*

ThOG am 09:35 **ToF-SIMS Spectral Analysis of Nanotube and Fullerene Materials**; Albert Fahey; Christopher Szakal; *National Institute of Standards and Technology, Gaithersburg, MD*

ThOG am 09:55 **Intact Estrogen Receptor Complexes Measured by Chip-Based Nanoelectrospray and MALDI Mass Spectrometry: An Approach to Identify and Classify Endocrine Disruptors**; Cédric Bovet[1]; Arno Wortmann[1]; Marc Ruff[2]; Sylvia Eiler[2]; Florence Granger[2]; Alexis Nazabal[3]; Ryan Wenzel[3]; Bertran Gerrits[4]; Dino Moras[2]; Renato Zenobi[1]; *[1]ETH Zurich, Zürich, Switzerland; [2]Institut de Génétique et de Biologie Moléculaire, Illkirch, France; [3]CovalX AG, Zürich, Switzerland; [4]Functional Genomics Center Zurich, Zürich, Switzerland*

10:15 am – 2:30 pm
POSTER SESSION AND EXHIBITS

7:30 – 8:00 am .....Set up Thursday posters (page 121)
10:15 am – 2:30 pm ..... All Thursday poster authors present
11:45 am – 12:15 pm ..... Lunch break for odd-numbered posters
12:15 – 12:45 pm .....Lunch break for even-numbered posters
3:30 pm ..... Remove all Thursday posters

THURSDAY AFTERNOON

2:30 - 4:30 PM
MS IN THE DETERMINATION OF CELLULAR PATHWAYS
Chair: Ileana Cristea
Exhibit Hall D, Lobby Level

ThOA pm 02:30 **Quantitative Approaches to the Study of Cellular Pathways**; Simon J. Gaskell[1]; Robert J Beynon[2]; *[1]University of Manchester, Manchester, United Kingdom; [2]University of Liverpool, Liverpool, United Kingdom*

ThOA pm 02:50 **System-Biology Analysis of Interferon-γ Activated Mouse Macrophages: from the Cytosol to the Phagosome**; Matthias Trost[1]; Maria Marcantonio[1]; Mathieu Courcelles[1]; Michel Desjardins[2]; Pierre Thibault[1]; *[1]Institute for Research in Immunology and Cancer, Montréal, Canada; [2]Dept. Patho. & Cell Biol., Université de Montréal, Montréal, Canada*

ThOA pm 03:10 **Combining Mass Spectrometry and Computational Modeling to Dissect Metabolic Network Dynamics**; Jie Yuan[1]; William U Fowler[2]; Chris Doucette[2]; Ned Wingreen[2]; Joshua D Rabinowitz[1]; Herschel A Rabitz[2]; *[1]Lewis-Sigler Institute, Princeton University, Princeton, NJ; [2]Princeton University, Princeton, NJ*

ThOA pm 03:30 **Proteomic and Genomic Analysis of Nuclear Receptor Signaling Pathways**; Patrick R Griffin; Jennifer Caldwell Busby; Scott A Busby; Valerie Cavett; Michael J Chalmers; Bruce D Pascal; Swati Prasad; Layton H Smith; Mark R Southern; *The Scripps Research Institute, Jupiter, FL*

ThOA pm 03:50 **Mass Spectrometric Signatures of the Proteolytic Activity of *Aspergillus fumigatus* during Invasive Pulmonary Aspergillosis;** Karine Bagramyan; Teresa B. Hong; Joseph M. Lyons; James I. Ito; Markus Kalkum; *City of Hope, Duarte, CA*

ThOA pm 04:10 **Analysis of Protein Kinase - Substrate Networks by Quantitative Phosphoproteomics**; Bernd Bodenmiller[1]; Lukas N. Mueller[1]; Claudine Kraft[1]; Mi-Youn Brusniak[2]; Matthias Gstaiger[1]; Ruedi Aebersold[1]; *[1]ETH Zürich, Zurich, Switzerland; [2]Institute for Systems Biology, Seattle, WA*

2:30 - 4:30 PM
BIOINFORMATIC ADVANCES FOR MS
Chair: David Fenyo
Wabash Ballroom, lobby level

ThOB pm 02:30 **Optimizing Sensitivity and Specificity in Data Analysis of Protein and Peptide Mass Spectra**; Jan Eriksson; *Swedish University of Agricultural Sciences, Uppsala, Sweden*

ThOB pm 02:50 **The Partition Function of Tandem Mass Spectra: A New Approach to Evaluating Statistical Significance of Peptide Identifications**; Pavel Pevzner; Sangtae Kim; Nitin Gupta; *UCSD, La Jolla, CA*

ThOB pm 03:10 **Unsupervised Pattern Recognition and the Generation of Decoy Databases for Modeling Tandem Mass Spectrum/Peptide Sequence False Match Frequencies**; Jian Feng[1]; Daniel Naiman[1]; Bret Cooper[2]; *[1]The Johns Hopkins University, Baltimore, MD; [2]USDA-ARS, Beltsville, MD*

ThOB pm 03:30 **MS/MS Libraries of Identified Peptides and Recurring Spectra in Protein Digests**; Stephen E. Stein; Lisa Kilpatrick; Jeri Roth; Paul Rudnick; Xiaoyu (Sara) Yang; *NIST, Gaithersburg, MD*

ThOB pm 03:50 **Study of Fragmentation Patterns of Modified Peptides and their Native Counterparts**; Mikhail Savitski[1]; Michael L Nielsen[1]; Roman A Zubarev[1]; *[1]biological and Medical Mass Spectrometry, Uppsala, Sweden; [2]Biological and Medical Mass Spectrometry, Uppsala, Sweden*

ThOB pm 04:10 **Bioinformatics Algorithms and Software Enabling Whole Proteome Quantitation Applied to Diploid vs. Haploid Yeast Cells**; Juergen Cox; Lyris de Godoy; Gustavo de Souza; Jesper V. Olsen; Shubin Ren; Matthias Mann; *Max-Planck-Institute of Biochemistry, Martinsried, Germany*

2:30 - 4:30 PM
CLINICAL ASSAYS WITH MASS SPECTROMETRY
Chair: Alfred L. Yergey
Room 120-124, lobby level

ThOC pm 02:30 **Mass Spectrometry in Routine Clinical Chemistry: Past, Present and Future**; Mark W Duncan; *UCDHSC, Aurora, CO*

ThOC pm 02:50 **MALDI-TOF Mass-Spectrometry Based Minisequencing Method for Rapid Detection Mycobacterim Tuberculosis Resistance to Rifampicin, Isoniazid and Ethambutol;** Vadim M. Govorun; Elena N. Il'ina; Maxim V. Afanas'ev; Larisa N. Ikryannikova; *Research Institute for Physical-Chemical Medicine, Moscow, Russian Federation*

ThOC pm 03:10 **Drugs of Abuse Screening and Confirmation of Positives for Amphetamines by LC/MS/MS: LC/MS/MS Compares Favourably to both Immunoassays and GC/MS;** Jeff C. Eichhorst[1]; Denis C. Lehotay[2]; Michele L. Etter[1]; Patrick Rogoschewsky[1]; *[1]Saskatchewan Disease Control Laboratory, Regina, Canada; [2]University of Saskatchewan, Dept. of Pathology, Saskatoon, Canada*

ThOC pm 03:30 **Evaluation of a Multi-Parameter Biomarker Set for Oxidative Damage: DNA/RNA, Lipid, and Protein Oxidation Products in Human Samples**; Yali Su; Czarina Cortez; Rui Tan; Chris Heward; *Kronos Science laboratory, Phoenix, AZ*

ThOC pm 03:50 **Evaluation of an iTRAQ™ Reagent Amino Acid Analysis Kit for the Rapid Quantitation of Amino Acids in Plasma**; Jean Lacey[1]; Bruno Casetta[2]; Scott Daniels[3]; Subodh Nimkar[4]; Dietrich Matern[1]; *[1]Mayo Clinic College of Medicine, Rochester, MN; [2]Applied Biosystems, Monza, Italy; [3]Applied Biosystems, Framingham, MA; [4]Applied Biosystems, Foster City, CA*

ThOC pm 04:10 **The Analysis of Thyroxin (T4) in Filter Paper Blood Specimens using Flow Injection Electrospray MS/MS**; Donald H. Chace[1]; James DiPerna[2]; Scott Singelton[2]; Mauro Aiello[3]; *[1]Pediatrix Analytical, Bridgeville, PA; [2]Pediatrix Screening, Bridgeville, PA; [3]MDS Sciex, Concord, ON, Canada*

2:30 - 4:30 PM
PROFILING DRUG METABOLITES BY MS
Chair: Richard Van Breemen
500 Ballroom, lobby level

ThOD pm 02:30 **Metabolic Profiling of Biologically Active Flavanones**; Dejan Nikolic[1]; Frederick Roelens[2]; Denis De Keukeleire[2]; Richard B. van Breemen[1]; *[1]University of Illinois College of Pharmacy, Chicago, IL; [2]Ghent University, Ghent, Belgium*

ThOD pm 02:50 **Positive/Negative Polarity Switching Mass Spectrometry in Metabolite Identification**; Bill Fitch; Yaping Tu; Ludmila Alexandrova; Limin He; *Roche, Palo Alto, CA*

ThOD pm 03:10 **Metabolite Structure Elucidation by Differential Fragmentation between Positive and Negative Ionization Modes using LTQ Ion Trap Mass Spectrometry**; Steven X Hu; Michael Martin; *TargeGen, Inc., San Diego, CA*

ThOD pm 03:30 **Using LC/MS Based Metabonomics to Understand the Role of Gut Microflora in Mammalian Metabolism using Axenic Rats**; Robert Plumb[1]; Jeremy Nicholson[1]; Ian Wilson[2]; Paul Rainville[3]; *[1]Imperial College, London, United Kingdom; [2]Astra Zeneca, Macclesfield, UK; [3]Waters Corporatiion, Milford, MA*

ThOD pm 03:50 **A Unique Approach to Metabolism Profiling of Large Peptides in Biological Matrices using On-Line LC/MS and Principal Component Analysis Software**; Miryam Kadkhodayan*; Yan Wang; Isabelle Tcholakov; Chris Bellows; *Amylin Pharmaceuticals, Inc., San Diego, CA*

ThOD pm 04:10 **Metabolite Identification Studies using UPLC™-Radiodetection-QToF-MS**; Mark D. Wrona[1]; Christine Dieckhaus-Fandozzi[2]; Carl Berthelette[1]; Kevin P. Bateman[1]; *[1]Merck Frosst Canada & co, Kirkland, Quebec, Canada; [2]Merck Research Laboratories, West Point, PA*

2:30 - 4:30 PM
MASS SPECTROMETRY OF OXIDIZED PROTEINS
Chair: Richard Vachet
Sagamore Ballroom 5-6-7, level two

ThOE pm 02:30 **Three-Dimensional Structure of Cofilin Bound to Monomeric Actin Derived by Structural Mass Spectrometry Data**; J.K. Amisha Kamal[1]; Sabrina Benchaar[2]; Keiji Takamoto[1]; Emil Reisler[2]; Mark Chance[1]; *[1]Case Western Reserve University, Cleveland, OH; [2]University of California Los Angeles, Los Angeles, CA*

ThOE pm 03:10 **Characterization of Electrochemical-Induced Protein Oxidation as a Probe for Higher Order Protein Structural Interrogation**; Robert Hettich; Carlee McClintock; Vilmos Kertesz; *Oak Ridge National Laboratory, Oak Ridge, TN*

ThOE pm 03:30 **Probing Oxidative Stress using Intact Protein LC-MS**; Ljiljana Pasa-Tolic; Natacha M. Lourette; Heather S. Smallwood; Si Wu; Curt B. Boschek; Thomas C. Squier; Richard D. Smith; *Pacific NW Nat'l Lab, Richland, WA*

ThOE pm 03:50 ***In vivo* Protein Targets of Reactive Lipid Peroxidaton Products**; Juan Chavez; Bingnan Han; Jan F. Stevens; Claudia S. Maier; *Oregon State University, Corvallis, OR*

ThOE pm 04:10 **Towards the Proteomic Mapping of Endogenous Sites of HNE Modification: A Two-Step Solid-Phase Enrichment Strategy for HNE-Modified Peptides**; Mikel R Roe; Hongwei Xie; Juan Feng; Danni L Meany; LaDora V Thompson; Edgar A Arriaga; Timothy J Griffin; *University of Minnesota, Minneapolis, MN*

2:30 - 4:30 PM
ION MOBILITY INSTRUMENTATION
Chair: Alexandre Shvartsburg
Sagamore Ballroom 3-4, level two

ThOF pm 02:30 **Recent Advances in FAIMS/IMS/MS Instrumentation**; Keqi Tang; Richard D. Smith; *Pacific NW National Laboratory, Richland, WA*

ThOF pm 02:50 **The Perils of the Plasma Proteome Map Determined by Multidimensional Liquid Chromatography-Ion Mobility-Mass Spectrometry**; Stephen Valentine[1]; Xiaoyun Liu[2]; Manolo D. Plasencia[2]; Sarah Trimpin[2]; Stephen Naylor[1]; David E. Clemmer[2]; *[1]Predictive Physiology and Medicine, Inc., Bloomington, IN; [2]Indiana University, Bloomington, IN*

ThOF pm 03:10 **New Concepts for Ion Mobility-Mass Spectrometry (IM-MS) Instruments**; David H. Russell; *Texas A&M University, College Station, TX*

ThOF pm 03:30 **Ion Separations in Differential Mobility Spectrometry through Control of Pressure, Temperature and Chemical Modifiers in the Supporting Atmosphere**; Gary A. Eiceman[1]; Erkinjon G Nazarov[2]; Stephen L. Coy[2]; Evgeny V. Krylov[2]; Raanan A. Miller[2]; *[1]New Mexico State University, Las Cruces, NM; [2]Sionex Corporation, Inc, Bedford, MA*

ThOF pm 03:50 **Progress in Coupling a Differential Mobility Analyzer to the Source End of a Mass Spectrometer for IMS-MS Studies**; Juan Fernandez de la Mora[2]; Juan Rus[1]; Francisco Estevez[1]; Juan Antonio Sillero[1]; *[1]SEADM, Boecillo, Spain; [2]Yale University, New Haven, CT*

ThOF pm 04:10 **Enhanced Protein Detection in Proteomics Experiments using High-Field Asymmetric Ion Mobility Spectrometry on an Orbitrap Mass Spectrometer**; Julian Saba; Eric Bonneil; Pierre Thibault; *University of Montreal, Montreal, Quebec, Canada*

2:30 - 4:30 PM
ION STRUCTURES DETERMINED BY MS
Chair: John R. Eyler
Sagamore Ballroom 1-2, level two

ThOG pm 02:30 **Auxiliary Gas Phase Methods for Structure Elucidation by Mass Spectrometry**; Herbert H Hill[1]; Brad Bendiak[2]; Harry Zhu[1]; Mathew Pollard[1]; Prabha Dwivedi[1]; Maggie Tam[1]; *[1]Washington State Universtiy, Pullman, WA; [2]University of Colorado, Denver, CO*

ThOG pm 02:50 **Structural Determination of Nucleobases and Nucleosides using Surface-Enhanced Raman Scattering of Soft and Reactively Landed Ions on Silver Surfaces**; Karl E. Jackson; Michael Volný; Matt Diener; František Turecek; *University of Washington Department of Chemistry, Seattle , WA*

ThOG pm 03:10 **Hydrogen/Deuterium Exchange of Alanine Oligomeric Peptides: A Case Study of HAAAA**; Brittany R. Perkins; Kristin A. Herrmann Favela; Linda Breci; Vicki Wysocki; *Chemistry Department, University of Arizona, Tucson, AZ*

ThOG pm 03:30 **Shedding Light on the Structures of CID and HDX Product Ions**; Nick C Polfer[1]; Bela Paizs[2]; John R Eyler[3]; Rob C Dunbar[4]; Jos Oomens[5]; *[1]Fritz-Haber-Institut, Berlin, Germany; [2]German Cancer Research Center, Heidelberg, Germany; [3]University of Florida, Gainesville, FL; [4]Case Western University, Cleveland, OH; [5]FOM Institute 'Rijnhuizen', Nieuwegein, Netherlands*

ThOG pm 03:50 **Mid-Infrared Spectroscopy of Cationized Arginine Complexes: The Transition from Nonzwitterionic to Zwitterionic Arginine**; Rebecca A. Jockusch[1]; Matthew W. Forbes[1]; Matthew F. Bush[2]; Evan R. Williams[2]; Nick C. Polfer[3]; Jos Oomens[3]; *[1]University of Toronto, Toronto, Canada; [2]University of California, Berkeley, Berkeley, CA; [3]FOM Institute for Plasma Physics "Rijnhuizen", Nieuwegein, the Netherlands*

ThOG pm 04:10 **Cation-Pi Interactions and Complexes of Alkali Metal Ions with Aromatic Dipeptides. An IRMPD Structure Investigation**; Robert C. Dunbar[1]; Nick C. Polfer[2]; Jos Oomens[2]; *[1]Case Western Reserve Univ., Cleveland, OH; [2]FOM Institute for Plasma Physics, Nieuwegein, Netherlands*

4:45 - 5:30 pm
PLENARY LECTURE
Exhibit Hall D

Samuel Gandy
Farber Institute for Neurosciences
Regulation of Sorting and Processing of the Alzheimer's Amyloid-Beta

5:30 – 8:00 pm
CLOSING GALA
A festive evening of specialty food, drinks and entertainment
Westin Hotel
Red dot on name badge is required.

Exit the closing lecture to the **Tiki Bar** of tropical drinks and steel drums.

Ascend the escalator to the Westin Hotel and begin this festive evening in the **Wine Bar** complete with a variety of wines and hors d'oeuvres

The music of Xanadu will draw you into the ballroom, transformed into two spectacular areas. **Agilent Technologies**, sponsor of the **Brew Bar,** provides sports TV, a dance floor and caricaturists. Enjoy pub food of sliders, hotdogs, and fresh popcorn.

Now you will notice the elegant **Martini Bar** sponsored by **Thermo Scientific**. Flair bartenders will entertain with a variety of specialty martinis to compliment the carved roast beef and whipped potato "martinis."

Wander back to the foyer to enjoy a pasta station with a variety of condiments.

But that isn't all! The air is full of bubbles leading you to the **Bubble Bar** for a champagne toast and dessert. Linger to the music of a jazz trio as you say good-bye to another fabulous ASMS.

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POSTER SPACE

7:30 – 8:00 am.....All Monday posters should be set
11:15 am – 3:30 pm.... All Monday poster authors should be present
11:45 am – 12:15 pm.....Lunch break for odd-numbered posters
12:15 – 12:45 pm ..... Lunch break for even-numbered posters
7:30 – 8:00 pm ..... Remove all Monday posters

SPECIAL POSTERS

These posters will be displayed Monday through Thursday.

Poster 001 **Keyword Occurrence Statistics at ASMS Annual Conferences, 2001-2006**; David N. Heller[1]; Tom Thomas[2]; *[1]FDA Center for Veterinary Medicine, Laurel, MD; [2]Inmerge Co., Sante Fe, NM*

Poster 002 **Mass Whatever! Explaining The Significance and Impact of Mass Spectrometry in Society**; Donald H. Chace[1]; David Sparkman[2]; *[1]Pediatrix Analytical, Bridgeville, PA; [2]Consultant, Antioch, CA*

Poster 003 **FACSS Annual Conference, Memphis, TN**; Kermit Murray, *Louisiana State University, Baton Rouge, LA*

POSTER SPACE

AMBIENT IONIZATION I
004 - 020

MP 004 **Carbon Dioxide-Induced Atmospheric Sample Desorption and Analysis**; Michael J. Tomany; Joseph A. Jarrell; *Waters Corporation, Milford, MA*

MP 005 **Enhanced Information Content of Direct Desorption Experiments Utilising Reactive DESI Combined with Ion-Mobility Mass Spectrometry and Tandem Mass Spectrometry**; Gillian R. Hilton[1]; Jonathan P. Williams[1]; Richard J. Holland[1]; Konstantinos Thalassinos[1]; Anthony T. Jackson[2]; James H. Scrivens[1]; *[1]University of Warwick, Coventry, United Kingdom; [2]ICI Measurement Science Group, Wilton, Redcar*

MP 006 **Aerosol Desorption Electrospray Ionization**; Jianan Dong; Yohannes Rezenom; Kermit K. Murray; *Louisiana State University, Baton Rouge, LA*

MP 007 **Rapid In-Source Methods for DART-interface TOFMS Determination of Structural Information**; Teresa M. Vail[1]; Robert B. Cody[2]; O. David Sparkman[1]; Patrick R. Jones[1]; *[1]University of the Pacific, Stockton, CA; [2]JEOL USA, Inc., Peabody, MA*

MP 008 **Quantitative Desorption Electrospray Ionization Quadrupolar Ion Trap Mass Spectrometry of Antimalarial Pharmaceutical Preparations;** Leonard Nyadong[1]; Sameer Late[2]; Ajay Banga[2]; Michael Green[3]; Paul Newton[4]; Facundo Fernandez[1]; *[1]Georgia Institute of Technology, Atlanta, GA; [2]College of Pharmacy, Mercer University, Atlanta, GA; [3]Center for Disease Control and Prevention, Atlanta, GA; [4]Mahosot Hospital, Oxford University, Oxford, United Kingdom*

MP 009 **Atmospheric Desorption Analysis of Pharmaceutical Solid Dosage Forms: Progress over the Past Year;** Abigale Marcus[12]; Anthony New[12]; *[1]GlaxoSmithKline, King of Prussia, PA; [2]GlaxoSmithKline, Ware, UK*

MP 010 **DESI of Synthetic Polymer Surfaces**; Sara E. Whitson; Michael J. Polce; Chrys Wesdemiotis; *The University of Akron, Akron, OH*

MP 011 **High Throughput Determination of Proline Stable Isotope Enrichments by Direct Analysis in Real Time (DART™) Mass Spectrometry**; Zhanpin Wu[1]; Xia-Jun Zhang[2]; *[1]JEOL USA, Inc., Peabody, MA; [2]University of Texas Medical Branch at Galveston, Galveston, TX*

MP 012 **Salt Tolerance of Desorption Electrospray Ionization Mass Spectrometry (DESI-MS) Investigated Using Common Drugs**; Ayanna U. Jackson[1]; Nari Talaty[1]; R. G. Cooks[1]; Gary J. Van Berkel[2]; *[1]Purdue University, West Lafayette, IN; [2]Oak Ridge National Laboratories, Oak Ridge, TN*

MP 013 **Sensitivity and Quantitation using Atmospheric Solids Analysis Probe (ASAP) on a High Resolution Mass Spectrometer**; Richard G. McKay; Barbara S. Larsen; Charles N. Mcewen; *E I DuPont De Nemours, Wilmington, DE*

MP 014 **Direct Analysis in Real Time Mass Spectrometry (DART-MS) at the Library of Congress: New Answers to Old Questions**; Jeanette Adams[1]; Robert B. Cody[2]; *[1]Library of Congress, Washington, DC; [2]JEOL USA, Peabody, MA*

MP 015 **DART for Bioanalysis: Where Are We Now?**; Shaoxia Yu[1]; Cindy Xia[1]; Brian Musselman[2]; Joe Tice[2]; Elisabeth Crawford[2]; Jing-Tao Wu[1]; *[1]Millennium Pharmaceuticals, Winchester, MA; [2]Ion Sense, Inc., Saugus, MA*

MP 016 **Development and Characterization of a Desorption Electrospray Ionization Source Coupled to Hybrid**

POSTER SPACE

FT-ICR Mass Spectrometry for Biological Analyses; Michael S. Bereman; Adam M. Hawkridge; David C. Muddiman; *North Carolina State University, Raleigh, NC*

MP 017 **Rapid Formulation Assessment by using an Automated DART® -based Surface Ionization System**; Elizabeth Crawford; Brian Musselman; *IonSense, Inc., Saugus, MA*

MP 018 **Comparison of Electrospray Ionization and Direct Analysis in Real Time in Drug Discovery**; Chris Petucci[1]; Jason Diffendal[1]; David Kaufman[1]; Belew Mekonnen[1]; Gene Terefenko[1]; Brian Musselman[2]; *[1]Wyeth Research, Collegeville, PA; [2]IonSense, Danvers, MA*

MP 019 **Resolution and Accuracy in Desorption Electrospray Ionization Experiments**; Melvin A. Park; Kevin Dixon; Catherine Stacey; *Bruker Daltonics, Inc., Billerica, MA*

MP 020 **Characterization of Matrix-Assisted Laser Desorption Electrospray Ionization (MALDESI) Coupled to a Hybrid FT-ICR Mass Spectrometer for Direct Analysis of Proteins**; Jason S. Sampson; Adam M. Hawkridge; David C. Muddiman; *North Carolina State University, Raleigh , NC*

IONIZATION MECHANISMS 021 - 033

MP 021 **APCI-MS Detection of Low Volatility (ppt) Species at Room Temperature: the Advantage of Fenn's Droplet-Based "Electrospray Charging"**; F. Estevez[1]; M. Hernandez[1]; J. Rus[1]; A. Casado[1]; G. Fernandez de la Mora[1]; P. Martinez-Lozano[1]; J. Fernandez de la Mora[2]; *[1]SEADM, Boecillo, Spain; [2]Yale University, Mechanical Engineering Department, New Haven, CT*

MP 022 **Experimental Determination of the Electron Affinities of Several MALDI Matrices**; Timothy Lippa[1]; Soren Eustis[2]; Kit Bowen[2]; *[1]The Johns Hopkins Applied Physics Laboratory, Laurel, MD; [2]The Johns Hopkins University, Baltimore, MD*

MP 023 **An Effect of Plasma Formation on Mechanisms of Ionization Near a Cathode in Flow Technique Mass Spectrometry Studies**; P.S. Vinogradov; D.M. Avtonomov; I.A. Popov; E.N. Nikolaev; *IEPCP, Moscow, Russia*

MP 024 **The Role of Surface Activated Chemical Ionization (SACI) Mechanism in Quantitation Performance Improvement**; Luca Vegetti[1]; Luigi RossiBernardi[2]; Simone Cristoni[1]; *[1]ISB, Italy, Italy; [2]Multimedica Laboratories, Milan, Italy*

MP 025 **Non-Radioactive Ion Source for Psychotropic Drugs in Air at Ambient Pressure Through Surface-Ionization with Mass-Spectrometry**; Utkur Rasulev[1]; Usman Khasanov[1]; Alexander Mikhaylin[1]; Gary Eiceman[2]; Fatkhulla Tadjimukhamedov[2]; Erkinjon Nazarov[3]; *[1]Arifov Institute of Electronics, Tashkent, Uzbekistan; [2]New Mexico State University, Las Cruces, NM; [3]SIONEX Corporation, Bedford, MA*

MP 026 **Laser Fluence and Profile Effects on Sensitivity in MALDI Mass Spectrometry**; Hui Qiao; Vijanaka Fernando; Oleg Krokhin; Vic Spicer; Kenneth G Standing; Werner Ens; *University of Manitoba, Winnipeg, Canada*

MP 027 **Ionization efficiency Study of Matrix-Assisted Laser Desorption Ionization by Picoliter Inkjet Printing Sample Preparation**; Noriyuki Ojima; Alan Barnes; Omar Belgacem; Emmanuel Raptakis; *Shimadzu Biotech, Manchester, United Kingdom*

POSTER SPACE

MP 028 **Use of Small Polymers to Study Selectivity of Electrospray Response**; Salimo Mohamed; Laurence Charles; *University Aix-Marseille I & III, Marseille Cedex 20, France*

MP 029 **Electrospray Charging for Detecting Heavy Vapors in Human Breath**; Pablo Martinez-Lozano Sinues[1]; Juan Fernandez de la Mora[2]; *[1]SEADM, Valladolid, Spain; [2]Yale University, New Haven, CT*

MP 030 **SFC-MS: Ionisation in the Absence of High Voltage - a Route to Greater Sensitivity**; G. John Langley[1]; Mohini Thite[1]; Jeff Caldwell[2]; Richard Coxhead[3]; Laure Hitzel[5]; Paul Oakley[6]; Clare Paterson[4]; Bob Boughtflower[4]; Frank Pullen[5]; Steve Lane[4]; *[1]University of Southampton, School of Chemistry, UK; [2]Princeton Chromatography Inc., Cranbury, NJ; [3]Evotec, 151 Milton Park, Abingdon, UK; [4]GlaxoSmithKline, New Frontiers North, Harl, UK; [5]Pfizer Global Research and Development, Sandwich, , UK; [6]Mettler-Toledo Autochem, Newark, DE*

MP 031 **Volatilization of Organics by Laser-Induced Acoustic Desorption: What is the Mechanism?** Alexander V. Zinovev; Michael J. Pellin; Igor V. Veryovkin; *Argonne National Laboratory, Argonne, IL*

MP 032 **Investigations of Ionization Mechanisms Present in Atmospheric Pressure Ion Sources using APLI**; Matthias Lorenz; Ralf Schiewek; Klaus J Brockmann; Ana L Mangas Suarez; Siegmar Gaeb; Oliver J Schmitz; Thorsten Benter; *University of Wuppertal, Wuppertal, Germany*

MP 033 **Probing Temperature Changes in the Electrospray Plume Using Laser-induced Fluorescence Spectrometry**; Yu Zhu; Erik Portelius; Charles Feigerle; Kelsey Cook; *The University of Tennessee, Knoxville, TN*

INSTRUMENTATION: NEW CONCEPTS I 034 - 049

MP 034 **A Novel Bulk Electrolysis Cell for Online Mass Spectrometric Analysis of Electrochemical Processes**; Conor Mullens; Waldemar Gorski; Andrew Studley; Stephan B.H. Bach; *University of Texas at San Antonio, San Antonio, TX*

MP 035 **Online Coupling of Electrocapture Using a Multiple Membrane Section Electrospray Membrane Probe Interfaced to Time-of-Flight Mass Spectrometry**; Thomas P. White; Craig M. Whitehouse; *Analytica of Branford, Inc., Branford, CT*

MP 036 **Advanced Manufacturing Techniques for the Fabrication of Space Instrumentation Components**; Michael S. Watson[1]; Erik A. Syrstad[1]; James S. Dyer[1]; Charles M. Swenson[2]; John L. Stauder[1]; *[1]Space Dynamics Laboratory, North Logan, UT; [2]Utah State University, Logan, UT*

MP 037 **Energy Focus for Distance-of-Flight Mass Spectrometry**; Christie G. Enke; Gareth Dobson; *University of New Mexico, Albuquerque, NM*

MP 038 **3-Dimensional Computation of a Laminar Flow Interface for LC/MS/MS**; Serguei Savtchenko[1]; Lisa Cousins[1]; Gholamreza Javahery[1]; Ilia Tomski[1]; Charles Jolliffe[1]; Nasser Ashgriz[2]; *[1]IONICS Mass Spec Group, Inc., Concord, Canada; [2]University of Toronto, Toronto, Canada*

MP 039 **A Novel Electrospray Selected-Ion Flow Tube Mass Spectrometer Suited for the Study of Biophysical Chemistry**; Diethard K. Bohme[1]; *[1]York University, Toronto, Canada; [2]Gregory Koyanagi, Toronto,*

Canada; [3]Stefan Feil, Toronto, Canada; [4]Janna Anichina, Toronto, Canada; [5]Andrea Dasic, Toronto, Canada; [6]Michael Jarvis, Toronto, Canada

MP 040 **An Investigation into a Digital Ion Trap as an Ion Source for a Time of Flight Mass Spectrometer**; Roger Giles[1]; David Rousell[1]; Michael Sudakov[1]; Dimitris Papanastasiou[2]; *[1]SRL, Manchester, United Kingdom; [2]Las Cruses University, Las Cruses, NM*

MP 041 **A Compact Neutral Particle Detector for Satellite-Borne Space Environment Measurements**; Erik A. Syrstad[1]; James S. Dyer[1]; Charles M. Swenson[2]; Michael S. Watson[1]; *[1]Space Dynamics Laboratory, North Logan, UT; [2]Utah State University, Logan, UT*

MP 042 **Programmable Ion/Particle Printer at Atmosphere for Sample Preparation of MALDI Surfaces**; David Fries[1]; Ross Willoughby[2]; Stan Ivanov[1]; Brian Gregson[1]; Edward Sheehan[2]; *[1]University of South Florida, St. Petersburg, FL; [2]Chem-Space Associates, Pittsburgh, PA*

MP 043 **The Development of a Novel Electron Multiplier with an Onboard Integral High Voltage Power Supply for use in Mass Spectrometers**; Bruce N Laprade[1]; Richard Prunier[1]; Kevin Wheelhouse[2]; *[1]BURLE Electro-Optics, Sturbridge, MA; [2]Applied KiloVolts, Goring by the Sea, UK*

MP 044 **Direct Real-Time Desorption/Ionization**; Damien A. Narcisse; Kermit K. Murray; *Louisiana State University, Baton Rouge, LA*

MP 045 **Using Pulsed Acceleration and Charge Detection to Determine Mass in the Gigadalton Regime**; Sarah Mabbett; Joshua T Maze; Lloyd W Zilch; Martin F Jarrold; *Indiana University, Bloomington, IN*

MP 046 **What is the Speed Limit of ESI? Simulation, Measurement and Analysis of Long NanoESI-HT-TOFMS Timetraces of Some Relevant Fast Processes;** Ignacio Zuleta; Oh-Kyu Yoon; Matthew D. Robbins; Griffin K. Barbula; Richard N. Zare; *Stanford University, Stanford, CA*

MP 047 **Covalent Immobilization of Peptides on Self-Assembled Monolayer Surfaces using Soft-Landing of Mass-Selected Ions**; Peng Wang; Omar Hadjar; Jean H. Futrell; Julia Laskin; *Pacific Northwest National Laboratory, Richland, WA*

MP 048 **Application of MAB/FT-ICR for Chemical Warfare Agents Detection**; Clotilde Le Vot[1]; Carlos Afonso[1]; Claude Beaugrand[2]; Françoise Fournier[1]; Jean-Claude Tabet[1]; *[1]University P. and M. Curie, Paris Cedex O5 , France; [2]Abionix, Aix en Provence, France*

MP 049 **Development of a Multiplexed High Throughput Mass Spectrometer**; Sameer Kothari[1]; Dennis Taylor[2]; Jonathan Amy[1]; George Stafford[2]; R. Graham Cooks[1]; *[1]purdue University, West Lafayette, IN; [2]Thermo Fisher Scientific, San Jose, CA*

INSTRUMENTATION: FTMS
050 - 072

MP 050 **MALDI-FT-ICR-MS Quantification of Peptides and Oligosaccharides using Stable-Isotope Labels**; Kristina Toups; Taufika Islam Williams; Jing Zheng; Jennifer L. Frahm; David C. Muddiman; *North Carolina State University, Raleigh, NC*

MP 051 **A New Compensated Infinity Cell for Larger Radius Ion Excitation in Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; Sunghwan Kim[1]; Myoung Choul Choi[1]; Seung Yong Kim[1]; Jong Shin Yoo[1]; Hyun Sik Kim[1]; Christopher L. Hendrickson[2]; Alan G. Marshall[2]; *[1]Korea Basic Science Institute, Daejeon, Korea; [2]National High Magnetic Field Laboratory, Tallahassee, FL*

MP 052 **Elemental Composition Determination of Small Molecules with High Precision using FTICR MS**; Martin Zeller[12]; Wolfgang Metelmann-Strupat[12]; Markus Kellmann[12]; Scott Peterman[12]; Bernard Delanghe[12]; *[1]Thermo Fisher Scientific, Bremen, Germany; [2]Thermo Fisher Scientific, Somerset, NJ*

MP 053 **Improvements to Stepwise-External Calibration in FTICR for Proteomic Analysis by Accurate Mass Measurement**; Li Jing; Chunyan Li; Richard L. Wong; I. Jonathan Amster; *University of Georgia, Athens, GA*

MP 054 **Low Noise High Performance Preamplifiers for Non-destructive Detection of Ions in Precision Mass Spectrometry**; Raman Mathur; Cheng Lin; Konstantine Aizikov; Ronald W. Knepper; Peter B. O'Connor; *Boston University, Boston, MA*

MP 055 **The Spontaneous Loss of Coherence Catastrophe in FTMS**; Konstantin Aizikov; Peter B. O'Connor; *BUSM Mass Spectrometry Resource, Boston, MA*

MP 056 **A Procedure for Tuning and the Preliminary Evaluation of an Electrically Compensated Cylindrical ICR Cell**; Adam M. Brustkern; Don L. Rempel; Michael L. Gross; *Washington University, St. Louis, MO*

MP 057 **Properties of Ions Prepared with Metastable Atom Bombardment Analyzed with an Hybrid Q-FTICR Instrument;** Clotilde Le Vot[1]; Carlos Afonso[1]; Claude Beaugrand[2]; Christelle Kotanian[1]; Denis Lesage[1]; Jean-Claude Tabet[1]; *[1]Université Paris 6, Paris, France; [2]Abionix, Aix en Provence, France*

MP 058 **Characterization of Electrospray Ionization Hybrid Permanent Magnet FTICR Mass Spectrometer**; Mikhail V. Gorshkov[1]; Andrey N. Vilkov[2]; Dmitry A. Tolmachev[1]; Chaminda M. Gamage[2]; Alexander S. Misharin[2]; Irina A. Tarasova[1]; Vladimir M. Doroshenko[2]; *[1]Institute of Energy Problems of Chemical Physics, Moscow, RUSSIA; [2]MassTech, Inc., Columbia, MD*

MP 059 **ECD and CID of Peptide Ions in a Hybrid Permanent Magnet FT-ICR Mass Spectrometer**; Chaminda M. Gamage[1]; Alexander S. Misharin[1]; Andrey N. Vilkov[1]; Mikhail V. Gorshkov[2]; Vladimir M. Doroshenko[1]; *[1]MassTech, Inc., Columbia, MD; [2]Institute of Energy Problems of Chemical Physics, Moscow, Russia*

MP 060 **MassSpecter: A Modular Data Station for a Hybrid ESI-FTICR Mass Spectrometry**; Dmitry A. Tolmachev[1]; Konstantin P. Novoselov[1]; Oleg N. Kharybin[1]; Andrey N. Vilkov[2]; Vladimir M. Doroshenko[2]; Mikhail V. Gorshkov[1]; *[1]Institute of Energy Problems of Chemical Physics, Moscow, Russia; [2]MassTech, Inc., Columbia, MD*

MP 061 **Improvement of Ion Transfer Efficiency Through the Gate Valve for an External Ion Injection FT-ICR MS**; Myoung-choul Choi; Sunghwan Kim; Jong Shin Yoo; Hyun Sik Kim; *Korea Basic Science Institute, Daejeon, South Korea*

MP 062 **Calibration Laws Based on Multiple Linear Regression Applied to MALDI-FTICR-MS**; M. Ashley Chadwick; Taufika Islam Williams; D. Keith Williams, Jr; David C. Muddiman; *North Carolina State University, Raleigh, NC*

MP 063 **LC/MS, Proteins, and Petroleum: Performance Characteristics of a 14.5 Tesla LTQ FT-ICR Mass**

Spectrometer; Tanner M. Schaub[1]; Greg T. Blakney[1]; Chris L. Hendrickson[1]; John P. Quinn[1]; Michael W. Senko[2]; Alan G. Marshall[1]; *[1]National High Magnetic Field Laboratory, Tallahasse, FL; [2]ThermoFisher, San Jose, CA*

MP 064 **Peak Formation for an Approximately Tuned FTMS Cylindrical Compensated Trap with Modest Numbers of High M/Z Ions by Numerical Simulation**; Don L. Rempel; Adam M. Brustkern; Michael L. Gross; *Washington University, St Louis, MO*

MP 065 **Investigation of Mass Measurement Accuracy of Intact Proteins and Product Ions using Hybrid Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; D. Keith Williams, Jr; Adam M. Hawkridge; David C. Muddiman; *North Carolina State University, Raleigh, NC*

MP 066 **Minimization of Mass Discrimination due to Time-of-Flight Dispersion in External Source Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; Christopher L. Hendrickson[1]; Maria van Agthoven[1]; Steven C. Beu[2]; Greg T. Blakney[1]; Alan G. Marshall[1]; *[1]National High Magnetic Field Laboratory, Tallahassee, FL; [2]SC Beu Consulting, Austin, TX*

MP 067 **Improved Data Acquisition System for Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; Greg T. Blakney; Christopher L. Hendrickson; Alan G. Marshall; *ICR Program, NHMFL, Tallahassee, FL*

MP 068 **Carbon Cluster Structural Characterization by Gas-Phase Ion-Molecule Reactions in an FT-ICR Mass Spectrometer**; Jeremiah M. Purcell[1]; Christopher L. Hendrickson[1]; Paul W. Dunk[2]; Harold W. Kroto[2]; Alan G. Marshall[1]; *[1]National High Magnetic Field Laboratory, Tallahassee, Florida; [2]Florida State University, Tallahassee, Florida*

MP 069 **The New Possibilities in Ion Clouds Dynamic Simulation using Supercomputers: Application to FTICR, Kingdon Trap and Accumulation Quadrupole Devices**; Eugene Nikolaev[1]; Ron Heeren[2]; Alexander Popov[3]; Alexander Pozdneev[3]; Gleb Vladimirov[4]; *[1]The Institute for Energy Problems of Chemical Phys, Moscow, Russian Federation; [2]FOM Institute for Atomic and Molecular Physics, Amsterdam, Netherlands; [3]Moscow State University, Moscow, Russia; [4]The Institute for Biochem Phys Russian Acad. of Sc, Moscow, Russia*

MP 070 **SIMION Modeling of Ion Transfer in RF-Only Multipole Ion Guides Immersed in Strong Magnetic Field Gradients**; Steve C. Beu[1]; Christopher L. Hendrickson[2]; Alan G. Marshall[2]; *[1]S C Beu Consulting, Austin, TX; [2]National High Magnetic Field Laboratory, Tallahassee, FL; [3]Florida State University, Tallahassee, FL*

MP 071 **Study of Radial Electric Fields and Ion Cloud Coherence**; Nathan Kaiser; Brian Webb; James Bruce; *Washington State Universtiy, Pullman, WA*

MP 072 **Optimal Event Sequences for Octopole-Quadrupole-Octopole External Introduction for Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; Maria Van agthoven[1]; Steven C. Beu[2]; Greg T. Blakney[1]; John P. Quinn[1]; Christopher L. Hendrickson[1]; Alan G. Marshall[1]; *[1]National High Magnetic Fields Laboratory, Tallahassee, FL; [2]SC Beu Consulting, Austin, TX*

INSTRUMENTATION: TOF
073 - 089

MP 073 **Multi-Push Enhanced Duty Cycle for oa-TOF Mass Spectrometers**; Daniel J Kenny; Steven D Pringle; Jason L Wildgoose; *Waters Corporation, Manchester, United Kingdom*

MP 074 **Building a Novel Imaging Mass Spectrometer Based on a Multi-turn TOF Geometry**; Yasuhide Naito[1]; Manabu Heya[1]; Hirofumi Nagao[2]; Katsuyoshi Masuda[3]; Hisanao Hazama[4]; Ren Suzuki[4]; Kunio Awazu[4]; Ken-ichi Fujii[5]; Michisato Toyoda[5]; *[1]GPI, Hamamatsu, Japan; [2]Osaka Prefecture University, Osaka, Japan; [3]Suntory Institute for Bioorganic Research, Osaka, Japan; [4]Graduate School of Engineering, Osaka University, Osaka, Japan; [5]Graduate School of Science, Osaka University, Osaka, Japan*

MP 075 **Lifetimes of Biomolecule Ions Depending on MALDI Matrices Measured by a Multi-Turn Time-of-Flight Mass Spectrometer, MULTUM II**; Hisanao Hazama[1]; Yasuhide Naito[2]; Ken-ichi Fujii[3]; Michisato Toyoda[3]; Katsuyoshi Masuda[4]; Hirofumi Nagao[5]; Ren Suzuki[1]; Kunio Awazu[1]; *[1]Graduate School of Engineering, Osaka University, Suita, Osaka, Japan; [2]GPI, Hamamatsu, Shizuoka, Japan; [3]Graduate School of Science, Osaka University, Toyonaka, Osaka, Japan; [4]Suntory Institute for Bioorganic Research, Mishima-gun, Osaka, Japan; [5]Osaka Prefecture University, Sakai, Osaka, Japan*

MP 076 **The Application of High Speed Oscilloscope Analog-to-Digital Converters to Time-of-Flight Mass Spectrometry**; August J. Hidalgo; John C. Fjeldsted; William Frazer; *Agilent Technologies, Santa Clara, CA*

MP 077 **Construction of a Tandem TOF Mass Spectrometer with a Spiral TOF Mass Spectrometer and an Offset Parabolic Ion Mirror**; Takaya Satoh[1]; Takafumi Sato[1]; Jun Tamura[1]; Robert DiPasquale[2]; *[1]JEOL Ltd., Akishima, Japan; [2]JEOL USA, Inc., Peabody, MA*

MP 078 **A Pulsed Orthogonal Electrospray Time-of-Flight Mass Spectrometer with Constant-Momentum/ Energy-Selection**; Douglas F. Barofsky; Benjamin J. Bythell; *Oregon State University, Corvallis, OR*

MP 079 **Applications of High Resolution TOF MS in Low Mass Region. Use of Mass Defect;** Boris Kozlov; Vasiliy Makarov; Yurii Hasin; Ekaterina Podolskaya; Yaroslav Lutvinskii; Maria Apatskaya; Nikolay Krasnov; Sergey Kirillov; Anatolii Verentchikov; *Institute for Analytical Instrumentation, RAS, St. Petersburg, Russia*

MP 080 **The Analysis of Biomacromolecules using a MALDI TOF Mass Spectrometer Incorporating a Superconducting Tunnel Junction (STJ) Cryodetector**; Mark E. Bier[1]; Abdil Ozdemir[1]; Alex A. Aksenov[1]; Roger W. Hendrix[2]; Brian Firek[2]; *[1]Carnegie Mellon University, Pittsburgh, PA; [2]University of Pittsburgh, Pittsburgh, PA*

MP 081 **Evaluating the Influence of Fast Polarity Switching on Mass Accuracy with MSn Analysis**; Satoshi Yamaki; Kiyomi Arakawa; Yusuke Inohana; Ichiro Hirano; Shinichi Yamaguchi; Junko Iida; Takashi Hine; *Shimadzu Corporation, Kyoto, Japan*

MP 082 **Quantitative Comparison of Sensitivity and Saturation for MALDI-TOF Detectors When Measuring Complex and High Mass Samples;** Ryan J Wenzel[1]; Susanne Kern[2]; Alexis Nazabal[1]; Renato Zenobi[2]; *[1]CovalX AG, Zürich, Switzerland; [2]ETHZ, Zürich, Switzerland*

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MP 083 **Determination of Antipsychotic Drugs in Rat Plasma using Liquid Chromatography-Time-of-Flight Mass Spectrometry**; Leah N. Williamson[1]; Guodong Zhang[1]; Alvin V. Terry, Jr. [2]; Michael G. Bartlett[1]; *[1]The University of Georgia, Athens, GA; [2]Medical College of Georgia, Augusta, GA*

MP 084 **Extended Mass Range Ion Detector for Time-of-Flight Mass Analysis;** Michael S. Westphall; Mark Scalf; Lloyd M. Smith; *University of Wisconsin-Madison, Madison, WI*

MP 085 **Mass Measurement Accuracy Comparison of Double Focusing Magnetic Sector and Time-of-Flight Mass Analyzers**; Matthew M. Lyndon; Robert B. Dixon; Michael S. Bereman; David C. Muddiman; *North Carolina State University, Raleigh , NC*

MP 086 **Improving Resolution Homogeneity in TOF/TOF Mass Spectra by using a Pulsed Variable Voltage Single Stage Ion Mirror**; Cristian Santacruz; Edy Ayala; Cesar Costa-Vera; *Escuela Politecnica Nacional, Quito, ECUADOR*

MP 087 **Design of a High Performance Electrospray/Axial Time-of-Flight (a-ToF) Mass Spectrometer;** Brian G. Frederick[1]; Bronson H. Crothers[1]; Linda DeNoyer[2]; Robert H. Jackson[1]; Stephen A. Lammert[1]; L. Jay Legore[1]; Daniel P. Martin[3]; Zhongyu Yang[1]; *[1]Stillwater Scientific Instruments, Inc., Orono, ME; [2]Spectrum Square Associates, Ithaca, NY; [3]Launch Momentum, Falmouth, ME*

MP 088 **Adding Dimension To Nanomaterials Production Analysis: Examining Nanotubes and Fullerenes by Ion Mobility TOF MS**; Michael Ugarov[1]; Thomas Egan[1]; Albert Schultz[1]; Ernest Lewis[2]; Robert Hauge[2]; *[1]Ionwerks, Houston, TX; [2]Rice University, Smalley Institute, Houston, TX*

MP 089 **Ultrafast Cryogenic Detectors for Mass Spectrometry**; Masataka Ohkubo[1]; Kouji Suzuki[1]; Zhen Wang[2]; Shigehito Miki[2]; Yohei Kobayashi[1]; Shigetomo Shiki[1]; *[1]AIST, Tsukuba, Japan; [2]NICT, Kobe, Japan*

ION ACTIVATION / DISSOCIATION
090 - 101

MP 090 **Comparison of Activation Energies for Phosphopeptide-Phosphate Dissociation in an FTICR Mass Spectrometer using IRMP with a Tunable CO2 laser**; Wright Pearson; *University of Florida, Gainesville, FL*

MP 091 **Investigations of the Effects of Different Collision-Energy Regimes on Derived Thermochemistry from the Extended Kinetic Method**; Maria Happel[1]; Mary Disa Raulfs[1]; Paul G. Wenthold[2]; John C. Poutsma[1]; *[1]College of William & Mary, Williamsburg, VA; [2]Purdue University, West Lafayette, IN*

MP 092 **Calibration of Ion Effective Temperatures by CID in a Quadrupole Ion Trap Mass Spectrometer**; Geng Li; T.J. Ye; Jenny Pui Shan Wang; Rebecca Jockusch; *University of Toronto, Toronto, Canada*

MP 093 **Characterization of Free Radical Spin Adducts of Cyclic Nitrones using Electrospray-Tandem Mass Spectrometry**; Inas El Hassan; Beatrice Tuccio; Robert Lauricella; Laurence Charles; *University Aix-Marseille I & III, Marseille Cedex 20, France*

MP 094 **Novel MS^n Methods for the Study of Gas Phase Ion/Ion Reactions with a Quadrupole Time-of-Flight Tandem Mass Spectrometer**; Yu Xia; Scott A. McLuckey; *Purdue University, West Lafayette, IN*

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MP 095 **Increasing Confidence for High Throughput Peptide Sequencing with a Position Sensitive Detection System in an MALDI-IM-SID-TOF MS Instrument**; Wenjian Sun; Jody C. May; David H. Russell; *Texas A&M University, College Station, TX*

MP 096 **Collision-Induced Fragmentation of c and $z^{\bullet}$ Ions Formed from Protonated Polypeptides via Gas-Phase Ion/Ion Electron Transfer**; Hongling Han; Yu Xia; Scott A. McLuckey; *Purdue University, West Lafayette, IN*

MP 097 **A New Collision Cell for an Older Mass Spectrometer**; Richard H. Scheel; *Mich. Dept. of Commun Health, Lansing, MI*

MP 098 **Internal Energy Relaxation of Different Mass Peptide Ions in Quadrupole Ion Trap Mass Spectrometry**; Maria P Demireva; Philip M Remes; Gary L Glish; *The University of North Carolina at Chapel Hill, Chapel Hill, NC*

MP 099 **Increasing Fragment Mass Range by Infrared Multiphoton Dissociation in a Digital Ion Trap Mass Spectrometer**; Kengo Takeshita; Osamu Furuhashi; Takahiro Harada; Kiyoshi Ogawa; Shinichi Iwamoto; Sadanori Sekiya; Yoshikazu Yoshida; *Shimadzu Corporation, Kyoto , Japan*

MP 100 **High speed "Cascade" Electron Capture Dissociation in RF Ion Trap**; Takashi Baba; *CRL, Hitachi, Kokubunji, Japan*

MP 101 **On the Time Scale of Internal Energy Relaxation of MALDI and ESI ions in a Quadrupole Ion Trap**; Philip M Remes; Maria P Demireva; Gary L Glish; *Univeristy of North Carolina-Chapel Hill, Chapel Hill, NC*

ION STRUCTURES / ENERGETICS I
102 - 119

MP 102 **Entropic Effects of Substituted Phenols in the Gas-Phase Evidenced using the Kinetic Method**; Sandrine Voillard[1]; Françoise Fournier[1]; Yves Jacquot[1]; Carlos Afonso[1]; Guy Leclercq[2]; Jean-Claude Tabet[1]; *[1]University P. and M. Curie, Paris Cedex O5 , France; [2]Institute Jules Bordet, Brussels, Belgium*

MP 103 **Nitronic Acid Radical-Cations in the Gas Phase;** Miroslav Polasek; Jiri Kubista; *J. Heyrovsky Inst of Physical Chemistry, Praha 8, Czech Republic*

MP 104 **Use of IRMPD/ECD to Probe Long-lived Radical Intermediates**; Jason J Cournoyer; Cheng Lin; Peter B O'Connor; *Boston University Medical School, Boston, MA*

MP 105 **Investigation of the Mechanism of Elimination of Ketene from Protonated 2-Methoxy- and 2-Hydroxy-Benzalacetophenone: Experiment and Theory**; George Mathai[2]; V. S. Sebastian[2]; R. Srinivas[3]; P. Nagi Reddy[3]; Daryl Giblin[1]; Michael L. Gross[1]; *[1]Washington University, St Louis, MO; [2]Sacred Heart College, Thevara, Kochi, India; [3]Indian Institute of Chemical Technology, Hyderabad, India*

MP 106 **Gas Phase Synthesis and Characterization of Twisted Amides: Experimental Determination of the Proton Affinity of 2-Quinuclidone, Consequences for Peptide Fragmentation**; Tony Ly; Ryan R. Julian; *University of California at Riverside, Riverside, CA*

MP 107 **Tandem MS and Wavelength-selective IRMP of Discrete Vanadyl-acetone Complexes**; Zach Parsons[1]; Christopher Leavitt[1]; Winnie Chien[1]; Michael Kullman[1]; Gary Gresham[2]; Nick Polfer[3]; Jos Oomens[3]; Gary Groenewold[2]; Michael J. Van stipdonk[1]; *[1]Witchita State*

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University, Wichita, KS; [2]Idaho National Laboratory, Idaho Falls, ID; [3]FOM Institute for Plasma Physics, Nieuwegein, The Netherlands

MP 108 **Direct Comparison of the H/D Exchange Rates of Methyl Group Hydrogens on Macrocyclic Ligands of Ni Complexes by Mass Spectrometry**; Chang-nan Chen[1]; Jianhua Ren[2]; O. David Sparkman[2]; Patrick R. Jones[2]; *[1]Chaoyang University of Technology, Taichung, Taiwan; [2]University of the Pacific, Stockton, CA*

MP 109 **Cyclization of 2-acyl- and 2-thioacylaminobenzylcyclopropanes in the Gas Phase and Solution**; Albert T. Lebedev[1]; Gianluca Giorgi[2]; Sergey Mochalov[1]; Alexandr Fedotov[1]; *[1]Moscow State University, Moscow, Russian Federation; [2]Universita di Siena, Siena, Italy*

MP 110 **Fragmentation of Adenine-Steroid Adducts: Experimental and Theoretical Studies**; Daryl Giblin[1]; Qiang Zhang[1]; Harald Koefeler[2]; Zhi Yang[1]; Michael L. Gross[1]; *[1]Washington University, St. Louis, MO; [2]Medizinische Universität Graz, Graz, Austria*

MP 111 **Electrospray Mass Spectrometry and ES-MS/MS of Hole-Transport Materials: Formation of Open-Shell Molecular Radical Cations and Remarkable MSn Fragmentation Behaviour**; Mathias Schäfer [1]; Andreas Springer[2]; Philipp Zacharias[3]; Klaus Meerholz[3]; *[1]Inst. Organic Chemistry University of Cologne, Cologne, Germany; [2]Dep. Chemistry, Humboldt Universität zu Berlin, Berlin, Germany; [3]Inst Phys. Chemistry, University of Cologne, Cologne, Germany*

MP 112 **Noncovalent Interactions of Ni^+ with *N*-Donor Ligands: (Pyridine, 4,4-Dipyridyl, 2,2-Dipyridyl and 1,10-Phenanthroline) Collision-Induced Dissociation and Theoretical Studies**; Nalaka Rannulu; Mary T. Rodgers; *Wayne State University, Detroit, MI*

MP 113

MP 114 **ESI/MS Studies of the Fragmentation Patterns of Metallated Phthalocyanines;** Sara Hashemi; Michael J. Y. Jarvis; Diethard K. Bohme; *York University, Toronto, Canada*

MP 115 **Thermal Dehydration of Gaseous Ions: Master Equation Dynamics and Electrodynamic Ion Trap Experiments**; Jason R. Green; Miriam Fico; Igal Szleifer; R. Graham Cooks; *Purdue University, West Lafayette, IN*

MP 116 **Potassium Ion Affinities of Commonly Used MALDI Matrices: Determined by Guided ion Beam Tandem Mass Spectrometry;** Manoj Chinthaka Sinhapura-Dewage; Mary T. Rodgers; *Wayne State university, Detroit, MI*

MP 117 **Examination of Gas-Phase Ion Structures of Cationized Guanidiniocarbonyl pyrroles by Infrared Multi Photon Dissociation (IRMPD) Spectroscopy and Computational Modeling**; Miriam Drayss[1]; Mathias Schäfer[1]; Carsten Schmuck[2]; Dirk Blunk[1]; Nick C. Polfer[3]; Jos Oomens[3]; Sebastian Schlund[2]; Bernd Engels[2]; *[1]University of Cologne, Cologne, Germany; [2]University of Wuerzburg, Wuerzburg, Germany; [3]Fom Institute for Plasmaphysics Rijnhiuzen, Nieuwegein, the Netherlands*

MP 118 **Determination of Relative Activation Energies for Metal-Ligand Bond Breaking by IR Multiphoton Dissociation FT-ICR Mass Spectrometry**; Gregory A. Khitrov[1]; Norris W. Hoffman[2]; Alan G. Marshall[1]; *[1]Florida State University, Tallahassee, FL; [2]University of South Alabama, Mobile, AL*

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MP 119 **Functional Group "Tagging" for Vibrational Spectroscopy of Peptides Using IRMPD**; Michael Van Stipdonk[1]; Chawalee Chueachavalit[1]; Kara Griffith[1]; Varoon Bashyakarla[4]; Michael Kullman[1]; Gary Groenewold[2]; Gary Gresham[2]; Nick Polfer[3]; Jos Oomens[3]; *[1]Wichita State University, Wichita, KS; [2]Idaho National Laboratory, Idaho Falls, ID; [3]FOM Institute for Plasma Physics, Nieuwegein, The Netherlands; [4]Wichita Collegiate School, Wichita, KS*

PEPTIDES: FRAGMENTTION & SEQUENCING I
120 - 133

MP 120 **Electron Capture Dissociation: Effects of Charge State and Sequence on the Hydrogen Transfer**; Takashi Nishikaze; Mitsuo Takayama; *Yokohama City University, Yokohama, Japan*

MP 121 **Inconvenient Reality: Is the "Hydrogen-shift" in Electron Capture Dissociation of Peptide Backbone Predictable?**; Takemichi Nakamura[1]; Yayoi Hongo[1]; Akihiro Sato[2]; *[1]RIKEN Discovery Research Institute, Wako, Japan; [2]Jasco International Co., Ltd., Hachioji, Japan*

MP 122 **ECD of Doubly- and Triply-Protonated Peptides from Trypsin and Glu-C Digestion Reveals Similarities and Differences Compared to ETD**; Anastasia Kalli; Kristina Håkansson; *University of Michigan, Ann Arbor, MI*

MP 123 **Exploration of the Gas-Phase Radical Ion Chemistry of Metal-Adducted Peptides by use of Chemical Tags**; Jason W Kieltyka; Haichuan Liu; Kristina Håkansson; *University of Michigan, Ann Arbor, MI*

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MP 207 **Glycan Mass Mapping of Human Serum**; Hyun Joo An; Scott Kronewitter; Caroline Chu; Crystal Kirmiz; Mariana Barboza; Carlito B Lebrilla; *University of California, Davis, CA*

MP 208 **A Glycomics Approach for Characterizing Mutations in *N*- and *O*-Glycosylation of the Nematode *Caenorhabditis elegans*;** Elizabeth Palaima[1]; Maria Joao Gravato-Nobre[2]; Jonathan Hodgkin[2]; Catherine Costello[1]; John Cipollo[1]; *[1]Boston University Medical Center, Boston, MA; [2]University Of Oxford, Oxford, United Kingdom*

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MP 214 **Evaluation of Some Experimental Parameters in the Determination the Ratios of Cortisol to Cortisone and their Tetrahydrometabolites in Urine**; Andrea Raffaelli[1]; Alessandro Saba[2]; Piero Salvadori[2]; *[1]CNR ICCOM, Pisa, Italy; [2]University of Pisa - Chemistry Department, Pisa, Italy*

MP 215 **A Rapid and Sensitive Method for Determination of 25-Hydroxyvitamin D in Serum Implementing High Speed Liquid Chromatography Mass Spectrometry;** Marta Kozak; Jennifer Huang; *Thermo Fischer Scientific, San Jose, CA*

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MP 217 **Rapid Screening Assay of Trimethylaminuria with Matrix-Assisted Laser Desorption/Ionization Time-of-Flight Mass Spectrometry in Urine**; Chien-chen Lai[1]; Wei-Yi Hsu[2]; Fuu-Jen Tsai[2]; *[1]National Chung Hsing University, Taichung, Taiwan; [2]China Medical University Hospital, Taichung, Taiwan*

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MP 316 **LC-MS Based Detection of Molecular Genetic Modifications in Bacteria**; Patricia K. Lankford; Tse-Yuan S. Lu; Bruce A. Tomkins; W. Hayes McDonald; *Oak Ridge National Laboratory, Oak Ridge, TN*

MP 317 **Online Bacterial Identification Using MALDI-TOF-MS Fingerprint Methodology;** Leslie Harden; *USDA/WRRC, Albany, CA*

MP 318 **MALDI-TOF MS Based Intact Cells Microorganism Profiling in Tracking the Sources of Product Contamination at the Industrial Settings;** Oksana Gvozdyak; *Bruker Daltonics Inc., Billerica, MA*

MP 319 **Developing a Method for Detecting and Differentiating Shiga Toxin Variants from Pathogenic E. coli Using Mass Spectrometry Approach**; Chenyi Liu; Garrett Westmacott; Joanne McCrea; Walter Demczuk; Jody Berry; Lai-King Ng; Gehua Wang; *National Microbiology Laboratory, Winnipeg, MB, Canada*

MP 320 **An Integrated Systems Biology Study of Factors Influencing Amorphadiene Production from Metabolically Engineered Escherichia coli**; Christopher J. Petzold; Lance Kizer; Rob Dahl; Wenqing Shui; David Garcia; Jay D. Keasling; *University of California, Berkeley, CA*

MP 321 **Epitope Mapping of Botulinun Neurotoxin B by Mass Spectrometry and Proteomics**; Hercules Moura; Suzanne R. Kalb; Adrian R. Woolfitt; Jim L. Pirkle; John R. Barr; *Centers for Disease Control & Prevention, Atlanta, GA*

MP 322 **Biomarkers for Bioweapons: An Automated LC/MS Approach**; Robert A. Everley[2]; Shane A. Wyatt[1]; Tiffany M. Mott[1]; Peter Leopold[3]; Timothy R. Croley[1]; *[1]Commonwealth of Virginia, Richmond, VA; [2]Virginia Commonwealth University, Richmond, VA; [3]BioAnalyte, Portland, ME*

MP 323 **MALDI-TOF MS Fingerprinting of Fungal Isolates**; Justin M. Hettick; Brett J. Green; Francoise M. Blachere; Detlef Schmechel; Erica Janotka; Paul D. Siegel; Donald Beezhold; *National Inst. for Occupational Safety and Health, Morgantown, WV*

MP 324 **MALDI-TOF MS Fingerprint Identification of Microorganisms on the Species and Subspecies Level using Different Bioinformatic Approaches**; Thomas Maier[1]; Oksana Gvozdyak[2]; Vadim M Govorun [3]; Vladimir A Vereshchagin [3]; Elena Il'ina [3]; Stefan Klepel[1]; Uwe Renner[1]; Markus Kostrzewa[1]; *[1]Bruker Daltonik GmbH, Leipzig, GERMANY; [2]Bruker Daltonics Inc, Billerica, MA; [3]Institute of Physico-Chemical Medicine, Moscow, Russia*

MP 325 **Rapid Identification of Candida Species and Characterization of C. albicans Strains by MALDI Mass Signatures**; Jiang Qian[1]; Yang Cai[1]; Jim E. Cutler[3]; Richard B. Cole[2]; *[1]The Research Institute for Children, New Orleans, New Orleans, LA; [2]University of New Orleans, New Orleans, LA; [3]Louisiana State University Health Science Center, New Orleans, LA*

MP 326 **MassTag PCR – A Multiplex System for Differential Pathogen Detection Using Single Quadrupole MS**; Thomas Briese[1]; Tony Brand[2]; Neil Renwick[1]; Vishal Kapoor[1]; Joseph Villari[1]; Junhui Zhai[1]; Gustavo Palacios[1]; Zhiqiang Liu[1]; Omar Jabado[1]; Doug Postl[2]; Steve Royce[2]; Immaculada Casas[3]; Brunhilde Schweiger[4]; W. Ian Lipkin[1]; *[1]Mailman School of Public Health, Columbia U., New York, NY; [2]Agilent Technologies, Raleigh, NC; [3]Centro Nacional de Microbiologia, Madrid, Spain; [4]Robert Koch-Institute, Berlin, Germany*

MP 327 **Identification of Foodborne Bacteria by High Energy Collision-Induced Dissociation of Their Protein Biomarkers by MALDI Tandem-Time-of-Flight Mass Spectrometry**; Clifton K. Fagerquist[1]; Katherine E. Williams[2]; Anna H. Bates[1]; *[1]USDA Agricultural Res. Svc., Albany, CA; [2]Applied Biosystems, Foster City, California*

MP 328 **Lactic Acid Bacterial Identification using MALDI-TOFMS and a Standard Library Search Algorithm**; David Evason[1]; H.A. Ghanbour[2]; Alexis Polley[1]; H.A. Foster[2]; *[1]Scientific Analysis Instruments, Manchester, United Kingdom; [2]Salford University, Salford, UK*

MP 329 **Taxonomic Classification of Bacteria Using Mass Spectrometry-Based Proteomics**; Jacek P. Dworzanski[1]; Danielle N. Dickinson[2]; Samir V. Deshpande[3]; Rabih E. Jabbour[1]; Brian A. Eckenrode[4]; Charles H. Wick[5]; Alan W. Zulich[5]; *[1]SAIC, Aberdeen Proving Ground, MD; [2]Oak Ridge Institute for Science and Education, Oak Ridge, TN; [3]Science and Technology Corporation, Edgewood, MD; [4]FBI Counterterrorism and Forensic Research, Quantico, VA; [5]U.S. Army Edgewood Chemical Biological Center, Aberdeen Proving Ground, MD*

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MP 330 **CREDEX-MS: Mass Spectrometric Determination of Carbohydrate Recognition Structures in Proteins**; Michael Przybylski[1]; Adrian Moise[1]; Hans-Christian Siebert[2]; Hans-Joachim Gabius[2]; *[1]University of Konstanz, Konstanz, Germany; [2]Ludwig-Maximilians-University, Muenchen, Germany*

MP 331 **Time-Resolved Mass Spectrometry of Macrophage Phagosome Maturation via Isobaric Chemical Tagging**; Wenqing Shui[1]; Christopher Petzold[2]; Leslie Sheu[1]; Jun Liu[3]; Jay Keasling[2]; Carolyn Bertozzi[1]; *[1]Department of Chemistry, UC Berkeley, Berkeley, CA; [2]Department of Chemical Engineering, UC Berkeley, Berkeley, CA; [3]Bayer HealthCare LLC, Berkeley, CA*

MP 332 **The HLA-B27 Peptidome and Autoimmunity**; Arie Admon[1]; Lilach Halevi[1]; Eilon Barnea[1]; Ilan Beer[2]; Matthias Mann[3]; *[1]Technion - Israel Institute of Tech, Haifa, ISRAEL; [2]IBM Research Laboratory, Haifa, Israel ; [3]Max Planck Institute for Biochemistry, Martinsried, Germany*

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MP 333 **Immune Cell Potentiating Factor (ICPF) profiling via combined Mass Spectrometry**; Charles Matyi; Bart H.J. van den Berg; Kenneth O. Willeford; *Mississippi State University, Mississippi State, MS*

MP 334 **Proteomic Profiling of Avian Innate Immune Cell Surface Proteins**; Georgios S. Katselis[1]; Lei Zhang[2]; Ronald M. Goto[2]; Roger E. Moore[1]; Marcia M. Miller[2]; Terry D. Lee[1]; *[1]Immunology, Beckman Res. Inst., City of Hope, Duarte, CA; [2]Molecular Biology, Beckman Res. Inst., COH, Duarte, CA*

MP 335 **Mass Spectrometry and Autoimmune Disease: Identification and Analysis of Autoantibodies Reactive with Human Plasma Plasminogen**; Viorel Mocanu; David Bautz; Sofia Lionaki; Jia Jin Yang; Susan Hogan; Julie Hamra; Carol E Parker; Charles J Jennette; Ronald J Falk; Gloria A Preston; Xian Chen; *UNC at Chapel Hill, Chapel Hill, NC*

MP 336 **Characterization of Electro-Chemiluminescent and Biotinylated Antibody Conjugate Reagents for Immunogenicity Assays by Mass Spectrometry**; Ola M. Saad; Jakub Baudys; Keyang Xu; Lara Williams; An Song; Valerie E. Quarmby; Surinder Kaur; *Genentech, Inc., South San Francisco, CA*

MP 337 **Epitope Mapping on Bovine Prion Protein using Chemical Cross-Linking and Mass Spectrometry**; Tatiana Pimenova[1]; Alexis Nazabal[1]; Bernd Roschitzki[2]; Jan Seebacher[3]; Oliver Rinner[4]; Renato Zenobi[1]; *[1]ETH Zurich, Zurich, Switzerland; [2]Functional Genomics Center Zurich, Zurich, Switzerland; [3]University of Washington, Seattle, WA; [4]Institute for Molecular Systems Biology, ETHZ, Zurich, Switzerland*

MP 338 **MS Identification of *Aspergillus fumigatus* T cell Epitopes: A Novel Strategy to Discover Candidate Vaccines that Enhance Cell-mediated Immunity**; Diana Diaz-Arevalo; Teresa Hong; Joseph Lyons; James Ito; Markus Kalkum; *City of Hope, Duarte, CA*

MP 339 **"Top-down" and "Bottom-up" Epitope Mapping of Surface-bound Autoantigens: Development of an Epitope-Based Method for Diagnosis of Rare Autoimmune Diseases;** Thomas Deierling[1]; Peter Lorenz[2]; Cornelia Koy[1]; Michael Kreutzer[4]; Mike Schutkowski[3]; Johannes Zerweck[3]; Hans-Juergen Thiesen[2]; Michael O. Glocker[1]; *[1]Proteome Center Rostock, Rostock, Germany; [2]University of Rostock, Rostock, Germany; [3]JPT Peptide Technologies, Berlin, Germany; [4]STZ "Proteome Analysis", Rostock, Germany*

MP 340 **Class I and II MHC Restricted Phosphopeptides as Cancer Imunotherapeutics or Diagnostics**; Jie Qian; Mark Cobbold; Angela Zarling; Valentina Robila; Dina Bai; Victor H. Engelhard; Jeffrey Shabanowitz; Donald F. Hunt; *University of Virginia, Charlottesville, VA*

MP 341 **Identification of Peptides Presented by Diabetes-Related Class II MHC Molecules**; Henry W. Rohrs[1]; James J. Walters[2]; Anish Suri[1]; Emil R. Unanue[1]; Michael L. Gross[1]; *[1]Washington University, St. Louis, MO; [2]Sigma-Aldrich, St. Louis, MO*

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MP 342 **Covalent Modification of Model Peptides: Peptide Reactivity Testing Strategies**; Sandrine Jacquoilleot; Emma Thain; Raniero Zazzeroni; Maja Aleksic; *Unilever Colworth, Bedford, United Kingdom*

MP 343 **Examination of the Formation of Isocyanate Adducts at Specific Amino Acid Residues on Human Serum Albumin by Mass Spectrometry**; Tasneem Muharib[1]; Duncan A. Rimmer[2]; John White[2]; Malcolm R. Clench[1]; *[1]Sheffield Hallam University, Sheffield, United Kingdom; [2]Health and Safety Laboratory, Buxton, United Kingdom*

MP 344 **Simultaneous Quantitation of Methylated Hemoglobin Adducts in Rat Blood with Signature Peptides by Liquid Chromatography-Negative Electrospray Tandem Mass Spectrometry**; Fagen Zhang; Lynn H. Pottenger; B. Bhaskar Gollapudi; Melissa R. Schisler ; Michael J. Bartels; *The Dow Chemical Company, Midland, MI*

MP 345 **Using LC/Triple Quadrupole Mass Spectrometry for a Fast Quantitation of Immunosuppressants in Blood**; Michael Zumwalt[1]; Linda Cote[1]; Jeff Keever[1]; Uwe Christians[2]; Jamie Bendrick-Peart[2]; *[1]Agilent Technologies, Englewood, CO; [2]Univ. Colorado Health Sciences Center, Denver, CO*

MP 346 **Quantitation of DNA Adducts of Aristolochic Acid in Renal Tissue**; Robert A. Rieger; Radha Bonala; Andrea Fernandes; Shinya Shibutani; Charles R. Iden; *Stony Brook University, Stony Brook, NY*

MP 347 **Isotope Labeling and Mass Spectrometry for Identifying Formaldehyde-induced Histone Modifications and DNA-protein Crosslinks**; Kun Lu; Gunnar Boysen; Lina Gao; Leonard B Collins; James A Swenberg; *University of North Carolina at Chapel Hill, Chapel Hill, NC*

MP 348 **Automated SPE/LC/MS Method for the Analysis of THC and its Metabolites in Urine**; Martin Sibum[1]; Eshwar Jagerdeo[2]; John Crutchfield[1]; *[1]Spark Holland Inc., Emmen, Netherlands; [2]FBI Laboratory, Quantico, VA*

MP 349 **Detection and Identification of Common Drugs of Abuse in Various Biological Matrices**; Richard H. Lauman[1]; Tania A. Sasaki[2]; Daniel Blake[3]; *[1]University of Massachusetts, Amherst, MA; [2]Applied Biosystems, Foster City, CA; [3]Applied Biosystems, Warrington, England, UK*

MP 350 **A Proteomic Technique to Characterize *in vitro* Cellular Response using Nano-Flow Capillary LC Coupled to an LTQ-FTMS**; Jason W. Flora; Jeffery S. Edmiston; Rebecca R. Secrist; Gaurav S. Rana; Willie J. McKinney; *Philip Morris USA, Richmond, VA*

MP 351 **GC-MS/MS Analysis of the Chemical Warfare Agent VX in Biological Matrices;** Christopher Byers; Jeffrey McGuire; Stanley Hulet; Edward Jakubowski; Sandra Thomson; *Edgewood Chemical Biological Center (ECBC), APG, MD, MD*

MP 352 **Method Development for the Analysis of Algal Toxin, Microcystin and Nodularin by LC/MS/MS**; Daljit Vudathala; Margie Cummings; Lester Khoo; Lisa Murphy; *University of Pennsylvania, Kennett Square, PA*

MP 353 **Determination of Cyclohexyl Methylphosphonic Acid (CMPA) Concentration in Minipig Plasma Following GF Vapor Exposure using LC/MSD TOF**; Ronald Evans[1]; Allison Totura[2]; Julie Renner[2]; E. Michael Jakubowski[1]; Stanley Hulet[1]; Sandra Thomson[1]; *[1]U.S. Army ECBC, Aberdeen Proving Grounds, MD; [2]SAIC, Aberdeen Proving Grounds, MD*

MP 354 **Identification and Quantitation of Biodrugs by LC/MS using a a Multimode Ion Source**; Christian Vidal[1]; Stefan Czajkowski[1]; Korbinian Brand[1]; Sonja Oestreich[2]; Jürgen Wendt[2]; *[1]Institut für Klinische Chemie, MH Hannover, Hannover, Germany; [2]Agilent*

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MP 355 **Analysis of Serum Samples for Cannabinoids and Amphetamines with RRLC/Triple Quadrupole Mass Spectrometry using a Multimode Ion Source**; Juergen Wendt[1]; J. Röhrich[2]; S. Zörntlein[2]; J. Becker[2]; *[1]Agilent Technologies, Waldbronn, Germany; [2]Institute of Legal Medicine, University Mainz, Mainz, Germany*

MP 356 **Mass Spectrometric Analysis to Identify Metabolites Involved in Napthalene Covalent Binding**; William T. Jewell; *University of California, Davis, CA*

MP 357 **Simultaneous Analysis of Three Forms of Glyoxal-Induced DNA Crosslinks by nanoLC-Nanospray Ionization/Tandem Mass Spectrometry**; Yu-Chin Chen; Hauh-Jyun Candy Chen; *National Chung Cheng University, Ming-Hsiung, TAIWAN*

MP 358 **Quantitative Analysis of Six Trace Elements in Human Blood by Dynamic Reaction Cell ICP-MS**; Changming Yang; Sum Chan; Richard E. Reitz; *Nichols Institute, Quest Diagnostics, San Juan Capistrano, CA*

MP 359 **Effect of Arsenic on the Metabolism of 4-(Methylnitrosamino)-1-(3-pyridly)-1- butanone (NNK) in Mice Analyzed by LC-MS/MS**; Hui-Ling Lee; *National Health Research Institutes, Miaoli, Taiwan*

MP 360 **LC-MS/MS Elucidation of Immortal DNA Strands in Mouse Cell Models for Adult Stem Cell Asymmetric Self-Renewal**; Dayana Argoti[1]; Chris Utzat[2]; Art Lafleur[2]; James Sherley[2]; Paul Vouros[1]; *[1]Northeastern University-Barnett Institute, Boston, MA; [2]Massachusetts Institute of Technology, Cambridge, MA*

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MPW 361 **Investigation of the Mammalian Sensory-Motor Circuit Using Direct MALDI-MS**; Stanislav S. Rubakhin; Jonathan V. Sweedler; *Department of Chemistry & Beckman Institute, UIUC, Urbana, IL*

MPW 362 **Towards Proteomic Driven Annotation of Neuropeptide Genes in the Sea Urchin Genome;** Geert Baggerman[1]; Stanislav Rubakhin[2]; Eric Mornoe[2]; Andinet Amare[2]; Liliane Schoofs[1]; Jonathan Sweedler[2]; *[1]K.U.Leuven, Leuven, Belgium; [2]University of Illinois, Urbana, Il*

MPW 363 **A Synthetic Aβ Internal Standard for APP Catabolite Quantitation in CSF**; Ronald A. Miller; *Merck, West Point, PA*

MPW 364 **Investigation of the Proteome of Cerebrospinal Fluid**; Ashley Beasley; Avindra Nath; Robert J. Cotter; *Johns Hopkins University School of Medicine, Baltimore, MD*

MPW 365 **Mass Spectrometric Profiling of Neuropeptide Expression and Secretion Changes in Decapod Crustaceans in Response to Environmental Stress**; Ruibing Chen; Mingming Ma; Lingjun Li; *UW, Madison, Madison, WI*

MPW 366 **Selective Sampling of Secreted Neuropeptides from the Brain**; Nathan G. Hatcher; Norman Atkins, Jr; Timothy A. Richmond; Martha U-. Gillette; Jonathan V. Sweedler; *University of Illinois at Urbana-Champaign, Urbana, IL*

MPW 367 **Structural Characterization of Cockroach Peptides from Single Organs and Single Neurons using MALDI MS and IM-MS;** William K. Russell[1]; Reinhard Predel[2]; Susanne Neupert[2]; David H. Russell[1]; *[1]Texas A&M University, College Station, TX; [2]Friedrich-Schiller-University, Jena, Germany*

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MPW 368 **Discovery and *de novo* Sequencing of Insect Neuropeptides Using Hybrid Linear Ion Trap/Orbitrap Mass Spectrometry**; Markus Kellmann[1]; Martijn Pinkse[2]; Thomas Moehring[1]; Peter Verhaert[2]; *[1]Thermo Fisher Scientific, Bremen, Germany; [2]Delft University of Technology, Delft, The Netherlands*

MPW 369 **Mass Spectral Characterization of the CNS Peptidomes of the Lobster Homarus americanus and Crab Carcinus maenas**; Mingming Ma[1]; Ruibing Chen[1]; Andrew E. Christie[2]; Lingjun Li[1]; *[1]School of Pharmacy & Department of Chemistry, University of Wisconsin-M, WI; [2]Department of Biology, University of Washington, Seattle, WA; [3]Mount Desert Island Biological Laboratory, Salisbury Cove, ME*

MPW 370 **Adaptations in Neuropeptide Levels in Response to Imipramine in Mouse Hypothalamus**; Anna Nilsson[1]; Maria Fälth[1]; Karl Sköld[1]; Per Svenningsson[2]; Per Andrén[1]; *[1]Uppsala University, Uppsala, Sweden; [2]Karolinska Institute, Stockholm, Sweden*

MPW 371 **Novel Peptides Identified from Mouse Brain Tissue**; Maria Fälth[1]; Marcus Svensson[1]; Karl Sköld[1]; Anna Nilsson[1]; David Fenyö[2]; Per E Andren[1]; *[1]Uppsala University, Uppsala, Sweden; [2]The Rockefeller University, New York, NY*

MPW 372 **Mass Spectrometric Analysis of Peptides in Developing Optic Nerve**; Elena V. Romanova; Julie A. Markham; William T. Greenough; Jonathan V. Sweedler; *University of Illinois, Urbana, IL*

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MP 373 **A Rapid, Robust Technique for the High Resolution Discrimination, Analysis and, Quantitation of Human Milk Peptides**; Kirsten J Grant[1]; Randolph L Rill[2]; *[1]Florida State University, Dept of Chem & Biochem, Tallahassee, Florida; [2]Florida State University College of Medicine, Tallahassee, FL*

MP 374 **Study of the Efficiency and Selectivity of Platinum-Based Drugs on Peptides and Proteins;** Angela Paul; *Institute Of Cancer Research, London, United Kingdom*

MP 375 **MS Method to Report Disulfide Scrambling Due to Gamma Irradiation**; Sheng-xue Xie[1]; Todd D. Williams[1]; Dru Willey[2]; Elizabeth M. Topp[1]; *[1]The University of Kansas, Lawrence, KS; [2]Clearant, Inc, Los Angeles, CA*

MP 376 **Mass Spectrometric Characterization of the Elastolytic Properties of Human Macrophage Elastase (MMP-12) on Human Skin Elastin**; Samuel Taddese; Reinhard H. H. Neubert; Christian E. H. Schmelzer; *Martin Luther University Halle Wittenberg, Halle (Saale), Germany*

MP 377 **LC-MS Ion Profiling of Tetracosactide and Detection of Potential By-Products in Pharmaceuticals Finished Dosage Form;** John McHugh[1]; Louis-Philippe Labranche[1]; Suzanne Dumont[1]; Louise Fortin[1]; Andrei Nicolau[1]; Eric Bonneil[2]; Pierre Thibault[2]; Alain Carrier[1]; *[1]Sandoz Canada, Boucherville, Canada; [2]Institute for Research in Immunology and Cancer, Montréal, Canada*

MP 378 **UV-induced Modification of Cysteine-containing Peptides in the Presence of DMSO**; Eugene Moskovets[1]; Nikolai Zvonok[2]; *[1]SESI, Columbia, MD; [2]CDD, Northeastern Unversity, Boston, MA*

MP 379 **Examination of the Secreted Peptidome of Primary Explant Cultures from Colonic Crypts of Adult Mice by nano-LC-FT-IT MS**; Nancy Andon; Svetlana Nikoulina; Mary Erickson; Carolyn Lowe; Richard

Pittner; Soumitra Ghosh; Steven W Taylor; *Amylin Pharmaceuticals, Inc, San Diego, CA*

MP 380 **Screening of RGD-Binding Integrin Subunit Peptide Domains via Reversed Phase-HPLC-ESI-MS with Post-Column Addition**; Abraham Lo[1]; Raji A. Misjudeen[1]; Jung-Mo Ahn[2]; Kevin A. Schug[1]; Maria Beall[2]; *[1]UT-Arlington, Arlington, TX; [2]Department of Chemistry UT-Dallas, Dallas, TX*

MP 381 **Improved Detection of Proteolytic Peptides with and without Chemical Crosslinks by Quadrupole Fractionation Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; Bo Wang; Kristina Håkansson; *University of Michigan, Ann Arbor, MI*

MP 382 **Using Mass Spectrometry to Elucidate the Structure of Dda Helicase**; Lauren P. Blair; Christopher R. Warthen; Alan J. Tackett; Kevin D. Raney; *University of Arkansas for Medical Sciences, Little Rock, AR*

MP 383 **Incorporating Known Peptide Fragmentation Patterns into MASPIC Simplifies Manual Validations**; Chandra Narasimhan[1]; Edward C. Uberbacher[2]; *[1]UT-ORNL Genome Science & Tech., Oak Ridge , TN; [2]Life Science Division, Oak Rdge National Lab, Oak Ridge, TN*

MP 384 **Neutralization-Reionization Mass Spectrometric and Computational Studies of Radical Hydrogen Atom Adducts to Urea and Guanidine**; Changtong Hao; František Turecek; *University of Washington, Seattle, WA*

MP 385 **Using Dendrimers to Selective Extract and Concentrate Peptides for Analysis by Maldi-Tof Mass Spectrometry**; Andrea Gomez; Naresh Theddu; Sankaran Thayumanavan; Richard W. Vachet; *University of Massachusetts, Amherst, MA*

MP 386 **Windows Into the Bird Brain: Seldi Kinetic Analysis of Peptide Sensitivity in Biofouled Microdialysis Probes**; Fiona Plows[1]; Eva Ihle[2]; *[1]Bio-Rad Laboratories, Inc., Fremont, CA; [2]UCSF, San Francisco, CA*

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MP 387 **On the Co-Purification of Sulfonated Peptides from Phospho Peptide Enriched Samples;** Bertran Gerrits[1]; Bernd Bodenmiller[2]; Christian Panse[1]; Simon Barkow[1]; Ruedi Aebersold[2]; Ralph Schlapbach[1]; *[1]Functional Genomics Center Zurich UZH|ETH Zurich, Zurich, Switzerland; [2]Institute of Molecular Systems Biology ETH Zurich, Zurich, Switzerland*

MP 388 **Development of a Novel Chemical Probe for the Selective Enrichment of Phosphorylated Peptides from Complex Mixtures**; Pegah Jalili; Haydn L Ball; *UT Southwestern Medical Center, Dallas, TX*

MP 389 **Mapping O-GlcNAc and Phosphorylation Sites in C-MYC and CTD Peptides by Electron Transfer Dissociation Mass Spectrometry**; Terry Zhang[1]; Tonya Pekar[1]; Rosa Viner[1]; Ken Miller[1]; T Lakshmanan[2]; Gerald W. Hart[2]; *[1]ThermoFisher Scientific, San Jose, CA; [2]Johns Hopkins University, School of Medicine, Baltimore, MD*

MP 390 **Top Down Differentiation of Sulfation and Phosphorylation Sites on an Intact 7 kDa Chromogranin B Peptide**; Steven Taylor; Amy Hsieh; Nancy Andon; Soumitra Ghosh; *Amylin Pharmaceuticals, San Diego, CA*

MP 391 **Isolation of Phosphopeptides by a Novel, pI-Difference-Based Electrophoresis Method**; Yingda Xu; Robert Sprung; Sung Won Kwon; Sung Chan Kim; Yue Chen; Yingming Zhao; *University of Texas Southwestern Medical Center, Dallas, TX*

MP 392 **Data Dependent Analysis of Phosphopeptides upon Higher Energy C-Trap Dissociation (HCD) using a Hybrid Linear Ion Trap - Orbitrap MS**; Kerstin Strupat; Eugen N. Damoc; Oliver Lange; Eduard Denisov; Alexander Makarov; Thomas Moehring; *ThermoFisherScientific, Bremen, Germany*

MP 393 **Identification of Novel Acetylation Sites on Human Mitogen-Activated Protein Kinase Kinase Using a Mass Spectrometry Based Approach**; Yan Li; Haydn L. Ball; Sohini Mukherjee; Gladys Keitany; Yong Wang; Elizabeth J. Goldsmith; Kim Orth; *University of Texas Southwestern Medical Center, Dallas, TX*

MP 394 **Specific Detection of Sulfated Insect Neuropeptides on an Orbitrap using Neutral Loss Driven MS3;** Martijn Pinkse[1]; Markus Kellmann[2]; Thomas Möhring[2]; Peter Verhaert[1]; *[1]Delft University of Technology, Delft, Netherlands; [2]Thermo Fisher Scientific, Bremen, Germany*

MP 395 **A Proteomic Screen to Decipher the Histone Code Interactome by SILAC-Based Quantitative Proteomics**; Michiel Vermeulen; Matthias Mann; *Max Planck Institute for Biochemistry, Martinsried near Munich, Germany*

MP 396 **Phosphoproteome of Synaptoneurosomes from Cocaine Treated Rats**; Christian Collin-Hansen[1]; Erol E. Gulcicek[2]; Kenneth R. Williams[2]; Christopher M. Colangelo[2]; Angus C. Nairn[1]; *[1]Psychiatry, Yale University, New Haven, CT; [2]W.M. Keck Foundation Biotech. Resource Laboratory, New Haven, CT*

MP 397 **Robust Enrichment of Phosphopeptides from Serum using-Titania Coated Magnetic Beads for Rapid Profiling of Biomarkers by Mass Spectrometry**; Alvydas Mikulskis; Yang Wang; Alla Bogdanova; Eva Golenko; Wayne F. Patton; *PerkinElmer, Waltham, MA*

MP 398 **Kinetics of Tyrosylprotein Sulfotransferase using Mass Spectrometry**; Lieza A. Danan; Julie A. Leary; *University of California, Davis, CA*

MP 399 **ß-Elimination/Michael Addition and Size-Label Tagging for Mass Spectrometric Analysis of Protein Post-translational Modifications**; Hua Yang; Yu Shi; Xudong Yao; *Dept of Chemistry, University of Connecticut, Storrs, CT*

MP 400 **Protein Kinase A Represses Skeletal Myogenesis by Targeting Myocyte Enhancer Factor 2 D: An Investigation by Mass Spectrometry**; Min Du[1]; Robert L. S. Perry[1]; Xu Guo[2]; K. W. Michael Siu[1]; John C. McDermott[1]; *[1]York University, Toronto, CANADA; [2]Applied Biosystem/MDS Sciex, Concord, Canada*

MP 401 **Biochemical Investigation of Phosphorylation Sites of Heat Shock Protein gp96**; Julie A. Corbo; Reema Harish; Brian E. Acheson; Michael P. Dabritz; Benjamin P. Roscoe; Joan C. Gorga; Roman M. Chicz; Andy J. Tomlinson; *Antigenics, Inc., Lexington, MA*

MP 402 **Enzyme-cleavable Tandem Peptides as Tools for Determination of Relative Ionization Efficiencies**; Wolf D. Lehmann; Rüdiger Pipkorn; Chien-Wen Hung; *German Cancer Research Center, Heidelberg, Germany*

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MP 404 **Assessing the Phosphorylation and Lysine-Acetylation Status of Estrogen Receptor Alpha Isolated from Human Breast Cancer Cells;** David J Britton; Christian Atsriku; Birgit Schilling; Chrystal Berger; Gary K Scott; Michael M Baldwin; Michael P

Cusack; Jason Held; Simon Allen; Christopher C Benz; Bradford W Gibson; *Buck Institute For Age Research, Novato, CA*

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MP 405 **UniqueSRM MS: Assigning Unequivocal Mass Addresses for Each Protein in Entire Proteomes**; Keith Ashman; Jamie Sherman; Matthew J. Mckay; Mark P. Molloy; *APAF, Sydney, Australia*

MP 406 **Software Tool for Correction of LC-MS Signal Intensities Following Multidimensional Peptide Separations**; Dmitri Sitnikov; Paul Kerney; Joanna Hunter; Clive Hayward; Isabelle Migneault; *Caprion Pharmaceuticals, Inc, St-Laurent, Canada*

MP 407 **Nano-LC/MS/MS Quantification of Neuropeptides in CSF, Plasma and Brain Samples**; David P. Budac[1]; Laurie Allan[2]; Mark J. Hayward[1]; *[1]Lundbeck Research US, Paramus, NJ; [2]Eksigent Technologies, Monmouth Junction, NJ*

MP 408 **Simultaneous Quantification of Acylated and Des-Acylated Ghrelin Peptides using Matrix Assisted Laser Desorption Ionization Time of Flight Mass Spectrometry**; Jill A. Willency; *Eli Lilly & Co., Greenfield, IN*

MP 409 **Analysis of Hepcidin from Urine Using Sample Purification On Chip (SPOC) - MALDI**; Christopher M. Belisle[1]; Kenyon M. Evans-Nguyen[2]; Richard Semba[2]; Luigi Ferrucci[3]; Robert J. Cotter[2]; *[1]Qiagen Sciences Inc., Fremont, CA; [2]Johns Hopkins University School of Medicine, Baltimore, MD ; [3]National Institute on Aging, Clinical Research, Baltimore, MD*

MP 410 **Reproducible and Rugged Absolute Peptide Quantification by LC-MS/MS: Importance of Peptide Hydrogen-Bonding to Silica Supports and Column Pore Size**; Carmen L. Fernandez-Metzler; Richard C. King; Elizabeth A. Mahan; *Merck Research Labs, WP 75-200, West Point, PA*

MP 411 **Relative Quantification of Oxylipid-Modified Peptides using a QTrap Instrument**; Jianyong Wu; Juan Chavez; Claudia S. Maier; *Oregon State University, Corvallis, OR*

MP 412 **Evaluation of the Metabolism of Kappa Opioid Receptor Peptide Antagonists in Rat Brain and Blood;** Kshitij A Patkar; Arvind Chappa; Susan Lunte; Jane V. Aldrich; *University of Kansas, Lawrence, KS*

MP 413 **Effects of Physico-Chemical Parameters on ESI-MS Response Factors of GXG Tripeptides**; Misjudeen Raji; Kevin Schug; *University of Texas At Arlington, Arlington, TX*

MP 414 **Targeted Quantitative Analysis of Lysine Acetylation**; Marc Gentzel; Matthias Wilm; *EMBL Heidelberg, Heidelberg, Germany*

MP 415 **Quantitation of Defensin and Cathelicidin Peptides in Human Saliva**; Michael S. Gardner; Megan D. Rowland; James L. Stephenson, Jr; *Research Triangle Institute, RTP, NC*

MP 416 **Plasma Protein Binding of a Polar Peptide Drug Determined by Equilibrium Dialysis and HILIC UPLC-MS/MS**; Anders Sonesson; Birgitte Buur Rasmussen; *Ferring Pharmaceuticals A/S, Copenhagen S, Denmark*

MP 417 **Using LC-ESI-MS/MS with Stable Isotope Dilution to Track the Recovery of Amyloid-Beta Peptides During CSF Collection and Processing**; Tomoyuki Oe[1]; Bradley L. Ackermann[2]; Michael J. Berna[2]; Carlos O. Garner[2]; Koichi Inoue[1]; Ian A. Blair[1]; *[1]University of Pennsylvania, Philadelphia, PA; [2]Drug Disposition, Eli Lilly and Company, Greenfield, IN*

MP 418 **Ultra Low Level Endogenous Peptide Quantitation using Two-Dimensional Reverse-Phase / Normal-Phase LC-LC-MS/MS**; Andrew D. Wagner; *Esoterix / LabCorp, Inc, Calabasas Hills, CA*

MP 419 **Quantization of Isomeric Forms of Aspartic Acid in "Alzheimer Peptide" by ECD, CID and IRMP Methods**; Igor A. Popov[1]; Sergey A. Kozin[3]; Aleksey S. Kononikhin[3]; Ivan A. Boldin[1]; Oleg N. Kharybin[3]; Ekaterina F. Kolesanova[3]; Alexander I. Archakov[3]; Eugene Nikolaev[1]; *[1]The Institute for Energy Problems of Chemical Phys, Moscow, Russian Federation; [2]Institute for Biohemical Physics, Moscow, Russia; [3]Institute for Biomedical Chemistry, Moscow, Russia*

MP 420 **Development and Evaluation of QconCAT Polypeptide Constructs for Absolute Quantification of Human Plasma Glycoproteins**; Hamid Mirzaei; Joshua McBee; Simon Letarte; Julian Watts; Rudi Aebersold; *Institute for Systems Biology, Seattle, WA*

MP 421 **Quantitative Analysis of Peptides by Mass Spectrometry – Applicability in the Discovery of New Drugs and validation of biomarkers**; Constantin Tamvakopoulos; Zacharias D Sofianos; Theodora Katsila; Sofia Hatziieremia; Vagelis Balafas ; Nikolaos G Kostomitsopoulos; *Foundation for Biomedical Research of the Academy, Athens, Greece*

MP 422 **Peptide Ion Fragment Intensities as a Useful Parameter for Quantitation by MS**; Susan E. Abbatiello; Thomas P. Conrads; *University of Pittsburgh Cancer Institute, Pittsburgh, PA*

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MP 423 **Evaluation of Periplasmic Proteome Enrichment by Differential Isotope Labeling and Mass Spectrometry**; W. Judson Hervey, IV; Dale A. Pelletier; Gregory B. Hurst; *Oak Ridge National Laboratory (ORNL), Oak Ridge, TN*

MP 424 **Development of Tyrosinase-Immobilized Microreactor for Stable Isotopic Labeling of Tyrosine Residues**; Yong Seok Choi[1]; Christopher L. Pennington[2]; Troy D. Wood[1]; *[1]The State University of New York at Buffalo, Buffalo, NY; [2]University of Illinois at Chicago, Chicago, IL*

MP 425 **Proteomic Analysis of Clostridium thermocellum Sub-cellular Fractions Using a Quantitative 15N-Metabolic Labeling Strategy**; You-Jun Fu; Herbert Strobel; Bert C. Lynn; *University of Kentucky, Lexington, KY*

MP 426 **Differential Membrane Proteomics of the Bacterial Predator: Bdellovibrio bacteriovorus;** Pratik D Jagtap; Angela K Walker; John R Strahler; Eric S Simon; Maureen T Kachman; Janine R Maddock; Philip C Andrews; *University of Michigan, Ann Arbor, MI*

MP 427 **Accurate Measurement of the Relative Ion Currents of $^{16}O/^{18}O$ Labeled Peptides**; Phillip A. Wilmarth; Lucinda J. G. Robertson; Leif D. Rustvold; Ashok P. Reddy; Srinivasa R. Nagalla; Larry L. David; *OHSU, Portland, OR*

MP 428 **Time Series Proteome Profiling to Elucidate ER Stress Response Pathway;** Michelle Mintz[1]; Adeline Vanderver[1]; Kristy Brown[1]; Joseph Lin[1]; Christine Kaneski[2]; Raphael Schiffmann[2]; Eric P Hoffman[1];

Yetrib Hathout[1]; [1]*Children's Natl. Medical Center, Washington, DC;* [2]*NINDS/NIH, Bethesda, MD*

MP 429 **New Quantitative Method Based on Pseudo Internal Standards**; Yoshiya Oda; Tsuyoshi Tabata; Tatsuji Nakamura; Toshitaka Sato; Junro Kuromitsu; *Eisai, Tsukuba, Japan*

MP 430 **A Comprehensive Strategy for Quantitative Membrane Proteomics**; Chia-Li Han[1]; Chih-Wei Chien[2]; Yet-Ran Chen[3]; Yu-Ju Chen[4]; [1]*Department of Chemistry, NTNU, Taipei, Taiwan;* [2]*Graduate Institute of Medical Biotechnology, CGU, Tao-Yuan, Taiwan;* [3]*Institute of Bioscience and Biotechnology, NTOU, Keelung, Taiwan;* [4]*Institute of chemistry, Academia sinica, Taipei, Taiwan*

MP 431 **Quantitative Community Proteomics using Metabolic Stable Isotope Labeling for Characterizing a Natural Microbial Community**; Chongle Pan[1]; Chris Belnap[2]; Nathan Verberkmoes[1]; Vincent Denef[2]; Manesh Shah[1]; Nagiza Samatova[1]; Jillian Banfield[2]; Robert Hettich[1]; [1]*Oak Ridge National Lab, Oak Ridge, TN;* [2]*University of California at Berkeley, Berkeley, CA*

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MP 432 **Optimized LC-MS/MS for Analysis of Multiply Phosphorylated Peptides of IGFBP1 from Amniotic Fluid of IUGR Patient**; Suya Liu[1]; Majida Abu Shehab [2]; Madhulika B Gupta[2]; Victor K. M. Han[2]; Gilles Lajoie[1]; [1]*University of Western Ontario, London, ON, Canada;* [2]*Children's Health Research Institute, London, ON, Canada*

MP 433 **Influence of Physico-Chemical Properties of Titania on Phosphopeptide Enrichment for Phosphoproteomics;** Yasushi Ishihama[1]; Yutaka Kyono[2]; Naoyuki Sugiyama[3]; Sumiko Ohnuma[1]; Yasuyuki Igarashi[1]; Kazue Tani[4]; Masaru Tomita[1]; [1]*Keio University, Tsuruoka, JAPAN;* [2]*GL Sciences, Iruma, Japan;* [3]*Human Metabolome Technologies, Tsuruoka, Japan;* [4]*Yamanashi University, Kofu, Japan*

MP 434 **Identification of Phosphorylation Sites in soluble Guanylyl Cyclase by Quantitative Proteomic Analysis using Stable Isotope Labeling and LC-nESI Tandem MS**; Spiros D. Garbis[1]; Fotini N. Bazoti[2]; Andreas Papapetropoulos[3]; Anthony Tsarbopoulos[3]; [1]*Biomedical Research Foundation of Athens Academy, Athens, Greece;* [2]*GAIA Research Center, Kifissia, Greece;* [3]*University of Patras, Patras, Greece*

MP 435 **A Phosphoproteomic Approach to Mapping Novel Phosphorylation Sites in a WNK Family Kinase**; Jesse Rinehart; Caleb A. Hodson; Kathryn L. Stone; Richard P. Lifton; Erol E. Gulcicek; *Yale University, New Haven, CT*

MP 436 **Characterization of IMAC and TiO2 with Application to Studying the Dynamic Regulation of Phosphorylation**; Xiquan Liang; Gier Fonnum; Mahbod R. Hajivandi; Torkel Stene; Nini H. Kjus; Erlend Ragnhildstveit; Joseph W. Amshey; Paul Predki; Marshall Pope; *Invitrogen, R & D, Carlsbad, CA*

MP 437 **Direct and Quantitative Comparison of IMAC and Titanium Dioxide for Large-Scale Enrichment and Identification of Phosphopeptides**; Markus Schirle; Marcus Bantscheff; Manfred Raida; Bernhard Kuster; *Cellzome AG, Heidelberg, Germany*

MP 438 **Desalting Phosphopeptides by Solid-Phase Extraction**; Andrew J. Alpert[1]; Steven P. Gygi[2]; Ashok K. Shukla[3]; [1]*PolyLC Inc., Columbia, MD;* [2]*Harvard Medical School, Boston, MA;* [3]*Glygen Corp., Columbia, MD*

MP 439 **Relative Quantification of Phosphorylated Proteins in SK-MEL-28 Cells, Treated with a selective Small Molecule Inhibitor of B-Raf kinase, SB-590885**; Helen Flynn[1]; Simon Gaskell[2]; [1]*GlaxoSmithKline, Stevenage, United Kingdom;* [2]*University of Manchester, Manchester, United Kingdom*

MP 440 **IMAC is a Reproducibile Tool for Quantitative Phosphoproteomic Analyses**; Francesca Zappacosta; Melissa M. Dix; Michael J. Huddleston; Roland S. Annan; *GlaxoSmithKline, King of Prussia, PA*

MP 441 **Mass Spectrometry Studies of the Cell-Cycle Dependent Phosphorylation of the Nuclear Pore Nup107-160 Subcomplex**; Joseph Glavy[1]; Ileana M. Cristea[2]; Andrew Krutchinsky[3]; Günter Blobel[1]; Brian T. Chait[2]; [1]*HHMI/Rockefeller University, New York, NY;* [2]*The Rockefeller University, New York, NY;* [3]*UCSF, San Francisco, CA*

MP 442 **Evaluation of Phosphopeptide Enrichment Procedures for Titanium Dioxide and Zirconium Dioxide Chromatography**; Martin R. Larsen; Kasper Engholm-Keller; Søren S. Jensen; *University of Southern Denmark, Odense, Denmark*

MP 443 **Effect of Chelating Enhancers on Phosphopeptide Enrichment by Ligand Exchange Metal Oxide Chromatography using Titania and Zirconia**; Yutaka Kyono[1]; Naoyuki Sugiyama[2]; Sumiko Ohnuma[3]; Takeshi Masuda[3]; Masaru Tomita[3]; Yasushi Ishihama[3]; [1]*GL Science Inc., Iruma, Japan;* [2]*Human Metabolome Technologies, Inc., Tsuruoka, Japan;* [3]*Institute for Advanced Biosciences, Keio Universit, Tsuruoka, Japan*

MP 444 **Detection of Phosphopeptides Selectively Captured on a MALDI Plate Functionalized by Soft-landing of Gas Phase Zirconium Propoxide**; Grady R. Blacken; Michael Volny; Frantisek Turecek; *University of Washington, Seattle, WA*

MP 445 **An Automated Dual Trap & Column Arrangement for Online nanoLC-ESI-MS/MS Enrichment and Analysis of Phosphopeptides**; Allis S. Chien; Andrew W. Guzzetta; *SU Mass Spectrometry, Stanford University, Stanford, CA*

MP 446 **Analysis of Recalcitrant Phosphopeptides in Protein Complexes;** Thomas De vijlder[1]; Kris Laukens[1]; Stefaan Vandamme[3]; Geert De Jaeger[2]; Filip Lemiére[3]; Harry Van Onckelen[1]; Erwin Witters[3]; [1]*University of Antwerp; Dept. Biology, Antwerp, Belgium;* [2]*Flemish Institute for biotechnology (VIB), Ghent, Belgium;* [3]*University of Antwerp; Dept. Chemistry, Antwerp, Belgium*

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MP 447 **The Site of Modification and Mechanism of Inactivation of Glyceraldehyde-3-Phosphate Dehydrogenase Upon Nitration**; Vikram Palamalai[1]; Masaru Miyagi[2]; [1]*University of North Dakota, Grand Forks, ND;* [2]*Case Western Reserve University, Cleveland, OH*

MP 448 **Characterization of Human Histone H3 by ESI/FTICR/ECD MS/MS**; Frank Li; Raya Talroze; Feixia Chu; Shenheng Guan; Al Burlingame; *University of California San Francisco, San Francisco, CA*

MP 449 **Assessment of Post-Translational Modifications on All Core Histones in Selected Yeast Mutants Using Top Down Mass Spectrometry**; Lihua Jiang; *University of Illinois at Urbana-Champaign, Urbana, IL*

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MP 450 **Whole Proteome Analysis of Post-Translational Modifications**; Nitin Gupta[1]; Stephen Tanner[1]; Navdeep Jaitly[2]; Joshua Adkins[2]; Mary Lipton[2]; Robert Edwards[4]; Margaret Romine[2]; Andrei Osterman[3]; Vineet Bafna[1]; Richard Smith[2]; Pavel Pevzner[1]; *[1]University of California San Diego, La Jolla, CA; [2]Pacific Northwest National Laboratory, Richland, WA; [3]Burnham Institute for Medical Research, La Jolla, CA; [4]San Diego State University, San Diego, CA*

MP 451 **Nitration of Tyrosine Residues within eNOS Protein Utilizing Tetranitromethane, with Tryptic Digest and LTQ Mass Spectrometer**; Mike Zickus[1]; *[1]Northern Illinois University, DeKalb, IL; [2]Medical College of Georgia, Augusta, Georgia*

MP 452 **Protein Analysis of Glomeruli In Cyclosporin A Treated Rats: Investigation of Redox Processes**; Kristen D. Herring[1]; Corbin A. Whitwell[1]; David B. Friedman[1]; Axel Ducret[2]; Richard M. Caprioli[1]; *[1]Vanderbilt University, Nashville, TN; [2]Roche Center for Medical Genomics, Basel, Switzerland*

MP 453 **Quantitative Study of the Acetylation of HMGA1 Proteins *in vitro* and *in vivo***; Qingchun Zhang; Yinsheng Wang; *University of California at Riverside, Riverside, CA*

MP 454 **LC/Mass Spectrometric Study of Site-Selective Tyrosine Self-Nitration of Human Hemoglobin in the Presence of Nitrite/H2O2 and Nitrotyrosine Reduction by Antioxidant**; Chia-ming Chang; Hauh-Jyun Candy Chen; *National Chung Cheng University, Chia-Yi, Taiwan*

MP 455 **Development of a Screening Assay for Ligands to the Estrogen Receptor Based on Magnetic Nano/Microparticles and LC-MS**; Yongsoo Choi; Richard B van Breemen; *University of Illinois College of Pharmacy, Chicago, IL*

MP 456 **A Mass Spectrometric Study on the *in-vitro* Methylation of HMGA1a and HMGA1b proteins by PRMTs**; Yan Zou[1]; Kristofor Webb[2]; Avi Perna[1]; Steven Clarke[2]; Yinsheng Wang[1]; *[1]University of California, Riverside, Riverside, CA; [2]University of California, Los Angeles, Los Angeles, CA*

MP 457 **Covalent Modification of Proteins by Lipid Peroxidation Products: Characterization by Electrospray Ionization and Ion Trap / FT-ICR Mass Spectrometry**; Navin Rauniyar; Katalin Prokai-Tatrai; Stanley M. Stevens; Laszlo Prokai; *University of North Texas Health Science Center, Fort Worth, TX*

MP 458 **Characterization of "Clipped" Histone H3 Involved in the Differentiation of Murine Embryonic Stem Cells**; Tara L. Muratore[1]; Elizabeth M. Duncan[2]; Jeffrey Shabanowitz[1]; C. David Allis[2]; Donald F. Hunt[1]; *[1]University of Virginia, Charlottesville, VA; [2]The Rockefeller University, New York, NY*

MP 459 **Studying Glycation of Selected Food Protein by Mass Spectrometry Based Analysis**; Dongliang (Eric) Ruan; C.Y. Ma; I.K. Chu; *the University of HongKong, Hong Kong, CHINA*

MP 460 **Qualitative and Quantitative Analysis of UVA-induced Oxidative Damage to the Human Lens αB Crystallin;** David R. Stella; Kerri Barrett; Doyle "Ray" Moore II; Shannon M. Eliuk; Om P Srivastava; Stephen Barnes; *University of Alabama at Birmingham, Birmingham, AL*

MP 461 **Modifying the Charge State Distribution of Proteins in Electrospray Ionization Mass Spectrometry**; Brian L. Frey[1]; Casey J. Krusemark[1]; Shane M. Lamos[2]; Peter J. Belshaw[1]; Lloyd M. Smith[1]; *[1]University of Wisconsin-Madison, Madison, WI; [2]Saint Michael's College, Colchester, VT*

MP 462 **Identification of Protein Methylation at Aspartate and Glutamate Residues by Exhaustive HPLC/MS/MS**; Robert W. Sprung, Jr. [1]; Yue Chen[1]; Junmin Peng[2]; Terry Zhang[3]; Yingming Zhao[1]; *[1]UT Southwestern Medical Center, Dallas, TX; [2]Emory University, Atlanta, GA; [3]Thermo Electron Corporation, San Jose, CA*

MP 463 **Toward Determining the Biological Function of a Novel Post-translational Modification on the Ribosomal Protein S12**; Michael Brad Strader[1]; Nina Costantino[2]; Cai Chen[1]; Anthony J. Makusky[1]; Jeffrey A. Kowalak[1]; Donald L. Court[2]; Sanford P. Markey[1]; *[1]National Institute of Mental Health, Bethesda, Maryland; [2]National Cancer Institute, Fredrick, Maryland*

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MP 464 **Identification and Quantification of Membrane Proteins using iTRAQ Labeling and the New Paragon Database Search Algorithm**; Wolfgang Rist[1]; Dietrich Merkel[2]; Martin Lenter[1]; Matthias Glückmann[2]; Dietmar Waidelich[2]; *[1]Boehringer Ingelheim Pharma GmbH & Co. KG, Biberach an der Riss, Germany; [2]Applied Biosystems, Darmstadt, Germany*

MP 465 **Analysis of the Mammalian Mitochondrial Inner Membrane Proteome**; Ian M Fearnley; Joe Carroll; Matthew C Altman; John E Walker; *Medical Research Council Dunn Human Nutrition Unit, Cambridge, United Kingdom*

MP 466 **Comparison of the Extracellular Matrix Proteome isolated using Deoxycholate and Blendzyme combined with Mass Spectrometry Analysis**; Zhen Xiao[1]; Lidia Hernandez[1]; Timothy D. Veenstra[1]; Colin Stewart[2]; *[1]SAIC-Frederick, Frederick, MD; [2]National Cancer Institute at Frederick, Frederick, MD*

MP 467 **Targeted Approaches to Study the Plasma Membrane Proteome of the Olfactory Epithelium of *Mus musculus* by Mass Spectrometry**; Jenny Adler[1]; Jon Barbour[1]; Silke Oeljeklaus[1]; Eva Neuhaus[2]; Hanns Hatt[2]; Helmut E. Meyer[1]; Bettina Warscheid[1]; *[1]Medical Proteom-Center, Bochum, Germany; [2]Cellphysiology, Bochum, Germany*

MP 468 **Proteomic Characterization of Exosomes from Human Urine**; Amir Rahbar; Frances Ligler; *U.S. Naval Research Lab, Washington, DC*

MP 469 **Dissecting the Membrane Proteome of Human Epidermal Melanocytes**; Josip Blonder[1]; Atsushi Terunuma[2]; Veena Kapoor[2]; William G. Telford[2]; King Chan[1]; Zhaojing Meng[1]; Donald J. Johann[2]; Haleem J. Issaq[1]; Jonathan C. Vogel[2]; Timothy D. Veenstra[1]; *[1]SAIC-Frederick, Frederick, MD; [2]National Cancer Institute, Bethesda, MD*

MP 470 **Global Membrane Proteome Studies on the Luminal Microvascular Endothelial Cell Surfaces of Multiple Tissues *in vivo***; Yan Li; Jingyi Yu; Jacqueline Testa; Adrian Chrastina; Huei-luen Huang; Sabrina Shore; Fred Long; Eberhard Durr; Phil Oh ; Jan E. Schnitzer; *Sidney Kimmel Cancer Centre, San Diego, CA*

MP 471 **Towards the Complete Mitochondrial Proteome**; Albert Sickmann; *Rudolf-Virchow-Center for Exper. Med., Wuerzburg, Germany*

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MP 472 **nQuant and Two-Dimensional Peptide Mapping: Relative Protein Quantification using Normalized MALDI-TOF Data**; Christoph Roesli; Patrick Pedrioli; Dario Neri; *ETH Zurich, Zurich, Switzerland*

MP 473 **Cell Surface Antigen Identification of Melanoma by SILAC using Mass Spectrometry**; Guangyu Zhang[1]; Saulius Jarmalavicius[2]; Peter Walden[2]; *[1]Mitchell Cancer Institute, Univ. South Alabama, Mobile, AL; [2]Charite, Humboldt University, Berlin, Germany*

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MP 474 **Conformational Studies of Phosphorylated Motif in α-casein using Hydrogen Exchange Mass Spectrometry**; Shao-Ching Hung; Demetrius R. Dielman; Krishna Kuppannan; Vickie L. Langer; Anton S. Karnoup; Scott A. Young; *The Dow Chemical Company, Midland, MI*

MP 475 **Detection and Charatecrization of AL Light Chain Proteins from Fibrils**; Zhenning Hong; Roger Théberge; Yan Jiang; Amareth Lim; Tatiana Prokaeva; Lawreen H. Connors; Martha Skinner; Catherine E. Costello; *Boston University, Boston, MA*

MP 476 **Direct Comparison of Structures of Wild Type- and Mutant Cu/Zn-Superoxide Dismutase by H/D Exchange Mass Spectrometry**; Qi Wang[1]; Ashutosh Tiwari[2]; Lawrence J. Hayward[2]; Jeffrey N. Agar[1]; *[1]Brandeis University, Waltham, MA; [2]University of Massachusetts Medical School, Worcester, MA*

MP 477 **Structural Examination of the ClpAP Protease Complex via Synchrotron Radiolysis and Mass Spectrometry**; Jen Bohon[1]; Laura Jennings[2]; Stuart Licht[2]; Mark Chance[1]; *[1]Case Western Reserve University, Upton, NY; [2]Massachusetts Institute of Technology, Cambridge, MA*

MP 478 **Fluorescence Measurements of a Single Unsolvated Biomolecule: Conformation Fluctuations**; Joel H. Parks; Denis Duft; Xiangguo Shi; *Rowland Institute at Harvard, Cambridge, MA*

MP 479 **Probing of the Binding Properties of Acetobacter Aceti Citrate Synthase Using PLIMSTEX and Local H/D Exchange**; Sandra Kerfoot; Don L. Rempel; T. Joseph Kappock; Michael L. Gross; *Washington University, St. Louis, MO*

MP 480 **Comparing the Conformational Dynamics of Enzymes and Non-Enzymatic Proteins by Hydrogen-Deuterium Exchange and ESI-MS**; Yuhong Liu; Lars Konermann; *University of Western Ontario, London, Canada*

MP 481 **Two Non-Covalently Bound Antagonists on the Human RXRα LBD Protein Studied by Hydrogen/Deuterium Exchange and Mass Spectrometry**; Xuguang Yan; David Broderick; Jeff Morre; Michael Schimerlik; Max Deinzer; *Oregon State University, Corvallis, OR*

MP 482 **Mass Spectral Analysis of β2-Microglobulin Oligomers**; Mark Olbris; Kwasi Antwi; R. Srikanth; Richard W. Vachet; *University of Massachusetts, Amherst, MA*

MP 483 **Gas-phase Conformations of Protonated Serine Octamers, Peptides, and Proteins Using Infrared Photodissociation Spectroscopy with FTMS**; Xianglei Kong[1]; Giuseppe Infusini[2]; Cheng Lin[2]; Honghai Jiang[1]; Kathrin Breuker[3]; Fred. W. McLafferty[1]; *[1]Cornell University, Ithaca, NY; [2]Boston Univerisity School of Medicine, Boston, MA; [3]University of Innsbruck, Innsbruck, Austria*

MP 484 **Gas Phase Conformations of Protein Ions Formed from Two Different Solution Conformations**; Jianmin Zhang; D. J. Douglas; *University of British Columbia, Vancouver, Canada*

MP 485 **Protein Conformational Changes Monitored by Gamma Ray-induced Hydroxyl Radical Labeling and ESI-MS**; Xin Tong; Lars Konermann; *University of Western Ontario, London, Canada*

MP 486 **Extending PLIMSTEX by using MALDI/MS**; A T Manohari Silva; M. L. Gross; *Washington University in St.Louis, Mass Spectromet, St.Louis, MO*

MP 487 **Allosteric Activation of BirA Protein Studied by Hydrogen/Deuterium Exchange Mass Spectrometry**; Olli Laine; Emily D Streaker; Catherine Fenselau; Dorothy Beckett; *University of Maryland, College Park, MD*

MP 488 **Conformational Changes in Opioid-Related Peptides Induced by Membrane-Mimetic Systems as Studied Using Hydrogen/Deuterium Exchange**; Deepa Kunapuram; Chhabil Dass; *The University of Memphis, Memphis, TN*

MP 489 **Hydrogen Exchange Shows that Phosphorylation Causes Changes in Intramolecular Interactions**; Shugui Chen[1]; Thomas E. Smithgall[2]; John R. Engen[1]; *[1]Northeastern University, Boston, MA; [2]University of Pittsburgh School of Medicine, Pittsburgh, PA*

MP 490 **Modulation of Transferrin Conformation by Metal Binding Studied by Hydrogen Exchange and Mass Spectrometry**; Mingxuan Zhang[1]; Anne B. Mason[2]; Igor A. Kaltashov[1]; *[1]University of Massachusetts, Amherst, MA; [2]University of Vermont, Burlington, VT*

MP 491 **Identification of the Inter-Subunit Interactions Driving Maturation of HIV-1 Capsids using Mass Spectrometry based Hydrogen/Deuterium Exchange**; Sebyung Kang; Matthew B. Renfrow; Peter E. Prevelige; *University of Alabama at Birmingham, Birmingham, AL*

MP 492 **Hydrogen Deuterium Exchange Mass Spectrometry to Study the Assembly Mechanisms of Ebola Virus Matrix Protein VP40**; Leslie Silva[1]; Michael Vanzile[2]; M. Javad Aman[2]; David C. Schriemer[1]; *[1]University of Calgary, Calgary, Canada; [2]US Army Medical Res. Inst. Infectious Disease, Frederick, MD*

MP 493 **Use of Multiple Proteases to Improve Resolution and Accuracy in Hydrogen/Deuterium Exchange Monitored by FT-ICR Mass Spectrometry**; Huimin Zhang[1]; Mark R. Emmett[1]; Saša Kazazic[2]; Alan G. Marshall[1]; *[1]Florida State University, Tallahassee, FL; [2]Ruder Boškovic Institute, Zagreb, Croatia*

MP 494 **Analysis of SH3 Domain Interactions with HIV Nef Derived from Long-term Non-progressing HIV+ Patients**; Thomas E. Wales[1]; Lori Emert-Sedlak[2]; Ronald P. Trible[2]; Thomas E. Smithgall[2]; John R. Engen[1]; *[1]Northeastern University, Boston, MA; [2]University of Pittsburgh School of Medicine, Pittsburgh, PA*

MP 495 **Mapping the Interaction between Phosphorylated Human Growth Hormone–Growth Hormone Receptor using Hydrogen/Deuterium Exchange Mass Spectrometry**; Hari Kosanam[1]; Francesco Giorgianni[2]; Chabbil Dass[1]; *[1]The University of Memphis, Memphis, TN; [2]University of Tennessee Health Science Center, Memphis, TN*

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MP 496 **Structural Characterization of Factor Xa Dimers in Solution by Differential Surface Modification and Mass Spectrometry**; Roxana E. Iacob[1]; Rima Chattopadhyay[2]; Shalmali Sen[2]; Barry R. Lentz[2]; Kenneth B. Tomer[1]; *[1]Laboratory of Structural Biology, NIEHS, RTP, North Carolina; [2]Department of Biochemistry and Biophysics, UNC, Chapel Hill, North Carolina*

MP 497 **Improved Protein Surface Mapping using Amino Acid Specific Covalent Modifications Combined with Mass Spectrometry**; Vanessa Mendoza; Richard W. Vachet; *University of Massachusetts, Amherst, MA*

MP 498 **Interaction of the Cellular Retinoic Acid Binding Protein with the Retinoic Acid Receptor: A Mass Spectrometric Study**; Virginie Sjoelund; Igor A. Kaltashov; *University of Massachusetts, Amherst, MA*

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MP 499 **Development of MRM Assays for Quantification of Low Abundance Biomarkers in Human Serum**; Catalin E. Doneanu[1]; Weibin Chen[1]; Asish Chakraborty[1]; Johannes P.C. Vissers[2]; Johannes M.F.G. Aerts[3]; James I. Langridge[2]; John C. Gebler[1]; *[1]Waters Corporation, Milford, MA; [2]Waters Corp., Manchester, United Kingdom; [3]University of Amsterdam, Academic Medical Center, Amsterdam, The Netherlands*

MP 500 **Investigation of Individual Human Tear Samples from Dry Eye Symptomatic and Non-Symptomatic Contact Lens Wearers using Proteomic Methods**; Richard Sessler; Kari B. Green-Church; Nanette M. Kleinholz; Jason J. Nichols; *The Ohio State University, Columbus, OH*

MP 501 **Biomarker Validation Strategies using Automated Ion Selection and Method Building**; David Cox; Stephen Tate; Eva Duchoslav; *Applied Biosystems/MDS Sciex, Concord, Canada*

MP 502 **Discovery and Validation of Serum Biomarkers Expressed over the First Twelve Weeks of Fasciola Hepatica Infection in Sheep**; Marie-Claire Rioux[1]; C Carmona[1]; Brian J Ward[1]; Momar Ndao[1]; Robert Masse[2]; Hugh PJ Benett[3]; Terry Spithill[1]; Bernard F Gibbs[3]; *[1]Centre for Parasitology McGill University, Montreal, Canada; [2]MDS Pharma Services, Montreal, Canada; [3]Sheldon Biotechnology Center, McGill University, Montreal, Canada*

MP 503 **Comparative Proteomics Study of Horse Seminal Proteins using MALDI-MS and MS/MS to Gain Insight into Fertility**; William K. Russell[1]; Brad J. Williams[1]; Issa Issac[2]; Neil Sharma[2]; Sara Falasca[1]; Stephanie M. Cologna[1]; Liuxi Chen[1]; Ya-Jung Lee[1]; Dickson Varner[1]; David H. Russell[1]; *[1]Texas A&M University, College Station, TX; [2]Genomic Solutions, Ann Arbor, Michigan*

MP 504 **Proteomic Differential Expression of Colonic Biomarkers Associated with Crohn's Disease in a Mouse Model Using On-line 2D-LCMS and Decyder MS**; Janine M. Cooney[1]; Dwayne J. Jensen[1]; William A. Laing[2]; Matthew P.G. Barnett[3]; Warren C. McNabb[3]; Nicole C. Roy[3]; *[1]NuNZ, HortResearch Ltd, Ruakura Research Centre, Hamilton, New Zealand; [2]NuNZ, HortResearch Ltd, Mt Albert Research Centre, Auckland, New Zealand; [3]NuNZ, AgResearch Ltd, Grasslands Research Centre, Palmerston North, New Zealand*

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MP 505 **Identification of Cellular Proteins Effected by the Decomposition of Lipid Hydroperoxide 13-HPODE and Identification of Major Ketone/Aldehyde Adducts Formed**; Peter G. Slade; Michelle V. Williams; John S. Wishnok; Steven R. Tannenbaum; *Massachusetts Institute of Technology, Cambridge, MA*

MP 506 **Utilizing a Rat Model of Diabetes to Identify Urine Biomarkers for Early Diagnosis of Bladder Dysfunction**; Daniela M Schlatzer[1]; Serguei Iltchencko[1]; Elizabeth Yohannes[1]; Benlian Wang[1]; George Christ[2]; Mark R. Chance[1]; *[1]Case Western Reserve University, Cleveland, OH; [2]Wake Forest Unversity School of Medicine, Winston-Salem, NC*

MP 507 **Mass Spectrometric Analysis of Saliva Proteome**; Hongying Zhong[1]; Joseph Fernandez[1]; Linqi Zhang[3]; Daniel Malamud[2]; Haiteng Deng[1]; *[1]The Rockefeller University, New York, NY; [2]NYU College of Dentistry, New York, NY; [3]Aaron Diamond AIDS Research Center, New York, NY*

MP 508 **Establishment of a Human Urinary Peptidome to Aid in Disease Biomarker Discovery**; David M. Good[1]; Petra Zürbig[2]; Harald Mischak[2]; Joshua J. Coon[1]; *[1]University of Wisconsin-Madison, Madison, WI; [2]Mosaiques Diagnostics & Therapeutics, Hanover, Germany*

MP 509 **Identification of Plasma Proteins Linking Metabolic Syndrome to Coronary Artery Disease by Quantitative Proteomics**; Jacob A. Galan[1]; Minjie Guo[1]; Kam To[1]; Michael Sturek[2]; W. Andy Tao[1]; *[1]Purdue University, West Lafayette, IN; [2]Indiana University School of Medicine, Indianapolis, IN*

MP 510 **Candidate Biomarker Discovery in the Time Dependant Progression of a Mouse Model of Lung Fibrosis using Multiplex Proteomics Strategies**; Katherine Williams[1]; Christian R. Lombardo[2]; Kate Blease[2]; Bonny Chen[2]; Lilly Wong[2]; Garrett Hampton[2]; Christie Humter[1]; *[1]Applied Biosystems, Foster City, CA; [2]Celgene Corporation, San Diego, CA*

MP 511 **Urinary Protein Nephrotoxicity Biomarkers – Discovery and Validation**; Charlotte C. Yu Ip; Raymond J. Gonzalez; Josef S. Ozer; Frank D. Sistare; William H. Schaefer; *Merck Researck Labortories, West Point, PA*

MP 512 **Analysis of Covalent Adducts of Cytochrome C Arising from Nitration and Oxygen Radical Oxidation**; Jennifer R. Seal; John S. Wishnok; Steven R. Tannenbaum; *Massachusetts Institute of Technology, Cambridge, MA*

MP 513 **A Mass Spectrometry-Based Strategy for Identifying Proteinase Activities and the Sequences of Their Proteolytic Products**; Sarah Robinson; Richard Niles; H. Ewa Witkowska; Kirsten Rittenbach; Scott Dixon; Steven Hall; Susan Fisher; Markus Hardt; *University of California at San Francisco, San Francisco, CA*

MP 514 **Comparative Glycoproteomics Analysis for Canine Lymphoma and Bladder Cancer Using GIST, Lectin Selection and MALDI-TOF/TOF MS Profiling**; Christina Wilson[1]; Fred E. Regnier[2]; Deborah W. Knapp[3]; Stephen B. Hooser[4]; *[1]Purdue Univ., Animal Disease Diagnostic Laboratory, West Lafayette, IN; [2]Purdue Univ., Dept. of Chemistry, West Lafayette, IN; [3]Purdue Univ., Dept. of Veterinary Clinical Science, West Lafayette, IN; [4]Purdue Univ., Dept. of Comparative Pathobiology, West Lafayette, IN*

POSTER SPACE

MP 515 **IEF-Based Fractionation Strategies with MS for Characterizing Salivary Proteins**; Pinmanee Boonthueng; Prasanna Ramachandran; David T. Wong; Joseph A. Loo; *UCLA, Los Angeles, CA*

MP 516 **Identification of a Degradation Marker Related to Plasma Conservation by 2D-Gel Electrophoresis and MALDI-TOF MS**; Florence Guérard[1]; Olivia Guerre[1]; Dominique Dernis[2]; Jean-Jacques Huart[2]; Christian Rolando[1]; *[1]Univ. des Science/Tech de Lille, Villeneuve d'Ascq, France; [2]Etablissement Francais du Sang, Nord-de-France, Lille, France*

MP 517 **Proteomic Analysis of Human Skeletal Muscle by the Combination of 1-D Gel Electrophoresis and HPLC-ESI-MS/MS**; Zhengping Yi[1]; Charles Flynn[1]; Paul Langlais[1]; Susan T. Weintraub[2]; Lawrence Mandarino[1]; Kurt. Højlund[1]; *[1]Arizona state university, Tempe, AZ; [2]University of Texas Health Science Center, San Antonio, TX*

MP 518 **Proteomics-Based Study of Inborn Errors of Metabolism. Investigation of Protein Disturbances in Hyperhomocysteinemia;** Brian Gilfix[1]; David Rosenblatt[1]; Amanda Loewy[1]; Robert Masse[2]; Mike Aguiar[3]; David Blank[1]; Hugh PJ Bennett[3]; Bernard F Gibbs[3]; *[1]Royal Victoria Hospital, MUHC, Montreal, Canada; [2]MDS Pharma Services, Montreal, Canada; [3]Sheldon Biotechnology Center, McGill University, Montreal, Canada*

MP 519 **Biomarker Identification by SDS-PAGE and ESI-Ion Trap Mass Spectrometry from the Unfractionated Urine for the Diagnosis of Osteoporosis**; Hyun-Soo Choi; Ilyn L. Santos; Jinkyu Lim; *Kyungpook University, Daegu, South Korea*

MP 520 **Proteinase 3 and Latent Matrix-metalloproteinase 9: Potential Biomarkers for Chronic Lung Transplant Rejection**; Yan Zhang; Marshall Hertz; Christine Wendt; Gary Nelsestuen; *University of Minnesota, Minneapolis, MN*

MP 521 **Biomarker Discovery for Predicting Susceptibility to Age-Related Macular Degeneration and Monitoring Therapeutic Efficacy**; Jiayin Gu[1]; Xianquan Zhan[1]; John S Crabb[1]; Elisa Bala[3]; Kutralanathan Renganathan[1]; Xiaorong Gu[1]; Stephanie A Hagstrom[1]; Hilel Lewis[1]; Robert G Salomon[2]; John W Crabb[1]; the Cleveland AMD Study Group[1]; *[1]Cleveland Clinic, Cleveland, OH; [2]Case Western Reserve University, Cleveland, OH; [3]Louis Stokes VA Medical Center, Cleveland, OH*

MP 522 **Limits of Quantitation for Low Abundant Proteins in Plasma by Targeted MS**; Hasmik Keshishian; Michael Burgess; Veronica Saenz-Vash; Eric Kuhn; Terri Addona; Steven A. Carr; *Broad Institute of MIT and Harvard, Cambridge, MA*

MP 523 **Proteomic Analysis of Cytoplasmic Lipid Droplets Using MudPIT Identification of Fractionated Rat Liver**; Mark Lowenthal; *UCHSC, Aurora, CO*

MP 524 **High Sensitivity Analysis of Urinary Desmosine and Isodesmosine Using Nano-LC/MS-MS**; Michel Boutin[1]; Kevin Bateman[2]; Pierre Thibault[1]; *[1]Institute for Research in Immunology and Cancer, Montreal, Canada; [2]Merck Frosst Center for Therapeutic Research, Kirkland, Canada*

MP 525 **Mass Spectrometry Characterization of Urinary Prion Protein**; Ayuna Dagdanova[1]; Sergei A. Ilchenko[2]; Qiwei Yang[1]; Pierluigi Gambetti[1]; Shu G. Chen[1]; *[1]Pathology Department, Case Western Reserve Univ., Cleveland, OH; [2]Center for Proteomics, Case Western Reserve Univ., Cleveland, OH*

MP 526 **Differential Proteome Pattern Associated with Diabetic Serum Revealed by Integrated Multiple Dimensional Liquid Chromatography Mass Spectrometry**; Jie Dai; Rong-Xia Li; Su-Jun Li; Qing-Run Li; Rong Zeng; *Shanghai Institutes for Biological Sciences, Shanghai, China*

MP 527 **Suction Blister Fluid As Potential Biological Matrix for Biomarker Proteins**; Jeroen Kool[1]; Léon Reubsaet[1]; Feikje Wesseldijk[3]; Raquel Maravilha[1]; Martijn Pinkse[1]; Clive D'Santos[1]; Jacobus van Hilten[2]; Freek Zijlstra[3]; Albert Heck[1]; *[1]Utrecht University, Sorbonnelaan 16, Utrecht, Netherlands; [2]Leiden University Medical Center, Leiden, The Netherlands; [3]Erasmus Medical Center, Rotterdam, The Netherlands*

MP 528 **Evaluation of an iTRAQ Strategy for Biomarker Detection in Cerebrospinal Fluid**; Catherine A. Formolo; Tobey J. MacDonald; Brian R. Rood; Yetrib Hathout; *Children's National Medical Center, Washington, DC*

PROTEOMICS: MEDICAL I
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MP 529 **Unraveling the Metabolism of CNS-derived Apolipoprotein E Using Stable Isotopes and Tandem MS**; Kristin R Wildsmith; Kwasi G Mawuenyega; Karen R Browning; Guolin Wen; Randall J Bateman; *Washington University, St. Louis, MO*

MP 530 **Quantitative Proteomic Analysis of Bruch's Membrane from AMD Donor Eyes using iTRAQ Technology and SCX Fractionation**; Xianglin Yuan; John S Crabb; Karen Shadrach; Xiaorong Gu; Joe G Hollyfield; John W Crabb; *Cleveland Clinic Foundation, Cleveland, Ohio*

MP 531 **Quantitative Proteomic Analysis of Bruch's Membrane from AMD Donor Eyes using iTRAQ Technology and SDS-PAGE Fractionation**; Xiaorong Gu; John S. Crabb; Karen Shadrach; Xianglin Yuan; Joe G. Hollyfield ; John W. Crabb; *Cleveland Clininc Foundation, Cleveland, OH*

MP 532 **Comparative Brain Membrane Proteome Analysis in Schizophrenia and Antipsychotic Drug Treatment using a Label Free LC-MS/MS Based Proteomic Profiling Approach**; Man KUAN Chan[1]; Dan Ma[1]; Lan Wang[1]; Sabrina Jahn[1]; Sabrina Schaefer[1]; Emanuel Schwarz[1]; Matthew Wayland[1]; Chris Hughes[2]; Jane Gartlon[3]; Peter Maycox[3]; Therese McKenna[2]; Sabine Bahn[1]; *[1]Institute of Biotechnology, Cambridge, United Kingdom; [2]Waters Corporation, Atlas Park, Manchester, United Kingdom; [3]Psychiatry CEDD, GlaxoSmithKline, Harlow, United Kingdom*

MP 533 **Quantifying the Co-expression of ApoA-I Mutant Fin (ApoA-IFIN) and Normal ApoA-I in Transgenic Mice**; Michael J. Thomas; John S. Owen; Manish S. Bharadwaj; Shaila Bhat; Michael P. Samuel; Mary G. Sorci-Thomas; *WFU School of Medicine, Winston-Salem, NC*

MP 534 **Effects of Mild Oxidative Stress on the Proteomes of Differentiated and Non-Differentiated C2C12 Mouse Muscle Cells**; Edgar A. Arriaga[1]; Matthias Mann[2]; Francesca Forner[2]; *[1]University of Minnesota, Minneapolis, MN; [2]Max Planck Institute, Martinsried, Germany*

MP 535 **Quantitative Proteome Analysis of Embryo Implantation in FKBP52 KO and Progesterone**

Treated Mice by Multivariable DIGE/MS; David B. Friedman; Kristen Burnum; Corbin Whitwell; Susanne Tranguch; SK Dey; Richard M. Caprioli; *Vanderbilt University School of Medicine, Nashville, TN*

MP 536 **Quantitative Determination of Red Blood Cell Partitioning of Peptide Compounds by a LC/MS/MS Assay**; Xun Cheng; JongSoo Hyun; Douglas L. Cole; Jing J. Zhang; *Affymax, Inc, Palo Alto, CA*

MP 537 **Investigation of Early Embryogenesis using Shotgun Proteomics and Spectral Counts**; Peggi M. Angel[1]; Lin Lin[3]; Daniel B. Weatherly[3]; Ron Orlando[1]; *[1]Complex Carbohydrate Research Center, Athens, GA; [2]Center for Tropical and Emerging Global Diseases, Athens, GA; [3]BioInquire, LLC, Athens, GA*

MP 538 **Stoichiometry of Proteins in the Sarcomere**; Kenneth Parker[1]; Ronan Walsh[1]; Bryan Krastins[2]; Mohammad Kian Salajegheh[1]; Anthony Amato[1]; David Sarracino[2]; Steven Greenberg[1]; *[1]Brigham and Women's Hospital, Boston, MA; [2]Harvard Partners Center for Genomics and Proteomic, Cambridge, MA*

MP 539 **Determining the Molecular Basis of Behavior: A Global Quantitative Proteomic Based Approach Utilizing Metabolic Labeling with ^{15}N**; Kathleen Grant; Boris Tabakoff; Christine C. Wu; *UCDHSC, Aurora, CO*

MP 540 **Tackling the Nitrosoproteome with S-FLOS: A Novel Method for Quantifying S-Nitrosylation Sites in Protein Extracts, Cell Lines and Tissue;** Lakshmi Santhanam; Marjan Gucek; Tashalee R Brown; Sungwoo Ryoo; Christopher Lemmon; Lewis Romer; Artin A Shoukas; Dan E Berkowitz; Robert Cole; *Johns Hopkins School of Medicine, Baltimore, MD*

MP 541 **Quantitative Proteomic Analysis of Human Neural Stem Cell by Differentiation using Stable Isotope Labeling with Amino acid in Cell Cultures**; Jeong Hwa Lee[1]; Jin Young Kim[1]; Kun Wook Park[1]; Kun Cho[1]; Kyung Hee Byun[2]; Sung Min Ahn[2]; Bong Hee Lee[2]; Jong Shin Yoo[1]; *[1]Korea Basic Science Institute, Daejeon, South Korea; [2]Jeju National University, Jeju, South Korea*

MP 542 **Quantitative Proteomics Profiling in Mitochondria of Mouse Skeletal Muscle Treated with Fatty Acids**; Zohra Olumee-shabon; Erica Reeves; Eric P. Hoffman; *Children's National Medical Center, Washington, DC*

MP 543 **Proteomics of Acute Pancreatitis in Rat Rough Endoplasmic Reticulum**; Xuequn Chen; John Strahler; Maria Dolors Sans; John Williams; Philip Andrews; *The University of Michigan, Ann Arbor, MI*

MP 544 **Utilizing Isobaric Tagging Reagents for Screening Cerebral Spinal Fluid Samples for Potential Alzheimer's Biomarkers**; Steven Guertin[1]; Marjorie Minkoff[1]; Matthew Willets[1]; Brian Williamson[1]; Baltazar Gomez-Mancilla[2]; Nelson Guerreiro[2]; *[1]Applied Biosystems, Framingham, MA; [2]Novartis Pharmaceuticals, Basel, Switzerland*

MP 545 **Signaling at the Neuromuscular Junction through the Eyes of the Acetylcholine Receptor: a Triple-Condition SILAC Study**; Helene L. Cardasis; Matthew Friese; Steve Burden; Thomas A. Neubert; *New York University, New York, NY*

MP 546 **Quantitative Analysis of Secreted Angiogenic Proteins During Hypoxia**; Shama P. Mirza; Molly C. Pellitteri-Hahn; Erika Winkler; Maria Warren; Dani Didier; Jack Littrell; Brian D. Halligan; Simon Twigger; Andrew S. Greene ; Michael Olivier; *Medical College of Wisconsin, Milwaukee, WI*

POSTER SPACE

MP 547 **Relative Quantification of Osteocyte Proteins using GLaD Chemistry combined with MALDI-ToF Analysis and Online-LC ES-IT-ToF Analysis**; Jessica Z. Bereszczak[1]; Nicoletta Bivi[2]; Gianluca Tell[2]; Francesco L. Brancia[1]; *[1]Shimadzu Research Laboratory, Manchester, United Kingdom; [2]University of Udine, Udine, Italy*

MP 548 **Decoding the Nitric Oxide-mediated Post-translational Modifications by the Label-free MS Differential Analysis Software – DeCyder™ MS**; Zezong Gu; Jonathan Kabakoff; Yang Shi; Dongdong Yao; Yuliang Ma; Stuart A. Lipton; *Burnham Institute for Medical Research, La Jolla, CA*

MP 549 **Comparative Proteomic Analysis of Light Exposed and Unexposed Photoreceptor Rod Outer Segments by Proteolytic ^{18}O Labeling Strategy**; Dagmar Hajkova[1]; Vikram Palamalai[1]; Chandra Sekhar Rao[1]; Ruth M. Darrow[2]; Daniel T. Organisciak[2]; Masaru Miyagi[1]; *[1]Case Western Reserve University, Cleveland, OH; [2]Wright State University, Dayton, OH*

PROTEOMICS: NEW & IMPROVED METHODS I
550 - 577

MP 550 **A QTAX-based Tag-team Method to Characterize Protein Interaction Networks**; Cortnie Guerrero; Jeff Jones; Yingying Yang; Peter Kaiser; Lan Huang; *UC Irvine, Santa Ana, CA*

MP 551 **Selective Isolation of N-terminal Proteolytic Peptides using a Fluorous Enrichment Strategy and Its Application Towards the Identification of Protease Substrates**; Fei Hong; Hugo D Urbina; Ansgar Brock; Eric C Peters; *Genomics Institute of Novartis Research Foundation, San Diego, CA*

MP 552 **Control of Charge State Distribution using a Hot Source-Induced Desolvation (HSID) Interface - Application to Discovery of Bacterial Virulence Factors**; Devanand M. Pinto[1]; Lisa Cousins[2]; Kenneth Chisholm[1]; Roger O. Ebanks[1]; *[1]NRC, Halifax, Canada; [2]Ionics Mass spectrometry Group, Toronto, Canada*

MP 553 **Identification of Secreted Proteins from a Breast Cancer Cell Line by Metabolic Labeling and Extensive Fractionation**; Jenny L Heidbrink; Elizabeth G. Joseloff; Courtney Schatz; Yuhui Wang; Chad Danis; Steve M. Ruben; Tao He; *Celera, Rockville, MD*

MP 554 **Mutiplexed Kd Determination by Quantitative Chemoproteomics (QCP)**; Andreas Tebbe; Jens Lamerz; Angelique Augustin; Everson Nogoceke; Peter Berndt; Nikolaos Berntenis; Hanno Langen ; Axel Ducret; *F. Hoffmann-La Roche Ltd., Basel, Switzerland*

MP 555 **Characterization of Monoclonal Antibodies: Surface Plasmon Resonance or High-mass MALDI Mass Spectrometry?**; Claudia Bich[1]; Alexis Nazabal[2]; Mike Scott[3]; Ryan Wenzel[2]; Renato Zenobi[1]; *[1]ETH Zurich, Zurich, Switzerland; [2]CovalX GmbH, Zurich, Switzerland; [3]Functional Genomic Center of Zurich, Zurich, Switzerland*

MP 556 **Proteomic Analysis of Arabidopsis Plasma Membranes using an Improved Organic Solvent-based Extraction Strategy**; Srijeet K. Mitra; Benjamin T. Walters; Steven D. Clouse; Michael B. Goshe; *North Carolina State University, Raleigh, NC*

MP 557 **Characterization of Organelles using Protein Correlation Profiling (PCP) combined with Stable Isotope Labeling by Amino Acids in Cell Culture**

POSTER SPACE

(SILAC); Lis Jakobsen; Jens S. Andersen; *CEBI, University of Southern Denmark, 5230 Odense M, Denmark*

MP 558 **Hypothesis-Driven MRM Applied to Wide-Range Yeast Proteome Analysis**; Paola Picotti[1]; Vinzenz Lange[1]; Nichole King[2]; Ruedi Aebersold[1]; Bruno Domon[1]; *[1]Institute for Molecular Systems Biology, ETH Zuerich, Zuerich, Switzerland; [2]Institute for Systems Biology, Seattle, WA*

MP 559 **Interrogating the Human Nucleus by Middle-Down Mass Spectrometry: A 2 Dimensional LC-FT-ICR-MS/MS Platform**; Michael T. Boyne II; Craig D. Wenger; Dana E. Robinson; Bryan A. Parks; Paul M. Thomas; Leonid Zamborg; Rich D. Leduc; Neil L. Kelleher; *University of Illinois, Urbana, IL*

MP 560 **Identifying Protein-Protein Interactions with LC-MALDI/TOF/TOF and Cross-Linking Strategy**; Xiaoting Tang[1]; Haizhen Zhang[1]; Gerhard R. Munske[1]; Natalia L. Zakharova[1]; Nikola Tolic[2]; Gordon A. Anderson[2]; James E. Bruce[1]; *[1]Washington State University, Pullman, WA; [2]Pacific Northwest National Laboratory, Richland, WA*

MP 561 **Deciphering the Dynamic Protein Interactions Using Quantitative Mass Spectrometry**; Lan Huang; Xiaorong Wang; *University of California, Irvine, CA*

MP 562 **Comprehensive Proteomic Analysis of the Human Embryonic Stem Cell Microenvironment**; Sean C Bendall[1]; J. Larry Campbell[1]; Paula Pittock[1]; Mick Bhatia[2]; Gilles A Lajoie[1]; *[1]University of Western Ontario, London, Canada; [2]2McMaster University Cancer Stem Cell Institute, Hamilton, Canada*

MP 563 **High Throughput and High Sensitivity Proteomic Analysis using Sub-Two Micro Particle Stationary Phase**; Denis Faubert[1]; Heng Jiang[1]; Marguerite Boulos[1]; Annie Bouchard[2]; Diane Forget[2]; Melanie Brault[1]; Benoit Coulombe[1]; *[1]Proteomics Discovery Platform of the IRCM, Montreal, Canada; [2]Gene Transcription Laboratory of the IRCM, Montreal, Canada*

MP 564 **Proteomic Study of Changes in IRE1 Subcellular Location and Protein Profiles under ER Stress Using Density Based Separation and MALDI-MS/MS**; WenKui Lan[1]; Marc J. Horn[1]; Kathryn L. Lipson[2]; Fumihiko Urano[1]; Sun W. Tam[3]; *[1]Prospect Biosystems, LLC, Newark, NJ; [2]University of Massachusets Medical School, Worceseter, MA; [3]UMass Medical School Proteomics Consortium, Shrewsbury, MA*

MP 565 **A New Approach to Monitor the Expression of Aldo-Keto Reductase Proteins in Mouse Tissues**; Shuyang Tu; Yan Ren; Wei Tong; Lei Yang; Ningzhi Xu; Siqi Liu; *Beijing Genomics Institute, CAS, Beijing, China*

MP 566 **Comprehensive Expression Profiles For Targeted Identification of Histone Modifications and Its Implications for the Determination of Structure-Function Relationships**; Paul Drogaris; Hugo Wurtele; Kevin Eng; Alain Verreault; Pierre Thibault; *Université de Montréal, Montréal, Canada*

MP 567 **The Mechanism of Folding Inhibition by Electrospray Additives to Enhance Dissociation of Large Protein Ions**; Honghai Jiang[1]; Xianglei Kong[1]; Kathrin Breuker[2]; Tadhg Begley[1]; Fred W. McLafferty[1]; *[1]Cornell University, Ithaca, NY; [2]University of Innsbruck, Innsbruck, Austria*

MP 568 **Exploring Protein Complexes with Mass Spectrometry and Fluorescence Microscopy Techniques**; Changhui Deng; Andrew N. Krutchinsky; *Dept of Pharm Chem, UCSF, San Francisco, CA*

MP 569 **SILAC in Cultured Primary Neurons: Application to BDNF Induced Phosphotyrosine Proteome Changes and Differential Protein Abundance of Postsynaptic Densities**; Daniel S. Spellman; Helene L. Cardasis; Bryen A. Jordan; Edward B. Ziff; Moses V. Chao; Thomas A. Neubert; *New York University School of Medicine, New York, NY*

MP 570 **Relative and Absolute Stoichiometric Determination of the Transcriptional Cofactor Complex Mediator by Mass Spectral Analysis;** Andrew C. Paoletti; *Stowers Institute for Medical Research, Kansas City, MO*

MP 571 **Combining "Bottom-up" and "Middle-down" Techniques for Better Coverage in Protein Characterization**; Dayin Lin; David Horn; *Agilent Technologies, Inc., Santa Clara, CA*

MP 572 **An 8-plex iTRAQ Shotgun Proteomics Investigation of N2-fixing Heterocysts in the Cyanobacterium Nostoc sp. PCC 7120**; Saw Yen Ow[1]; Karin Stensjö[2]; Peter Lindblad[2]; Phillip Wright[1]; *[1]The University of Sheffield, Sheffield, United Kingdom; [2]Uppsala University, Uppsala, Sweden*

MP 573 **Characterization of Zebrafish Cardiac Proteome by a Novel 2D HPLC Strategy Coupled with Q-TOF Tandem Mass Spectrometry**; Jian Zhang; Kevin A. Lanham; Richard E. Peterson; Warren Heideman; Lingjun Li; *The University of Wisconsin, Madison, WI*

MP 574 **Fluorescent Probes and Mass Spectrometry Reveal How Cytomegalovirus Ensures Human Cell Growth during Infection**; Ileana M. Cristea[1]; Nathaniel J. Moorman[2]; Scott S. Terhune[2]; Michael P. Rout[1]; Thomas Shenk[2]; Brian T. Chait[1]; *[1]The Rockefeller University, New York, NY; [2]Princeton University, Princeton, NJ*

MP 575 **Two-Dimensional Off-Line Separation Using High and Low pH Reversed-Phase for Proteomic Analysis of *Corynebacterium glutamicum* by 2D-LC MALDI MS/MS**; Maria Lasaosa; Nathanaël Delmotte; Katja Melchior; Christian G. Huber; Elmar Heinzle; Andreas Tholey; *University of Saarland, Saarbruecken, Germany*

MP 576 **Proteomic Profiling and Substrate Diversity of Lysine Ubiquitination**; Guoqiang Xu; Samie R Jaffrey; *Pharmacology,Weill Medical College of Cornell Univ, New York, NY*

MP 577 **The Utilization of Funnel-Skimmer Dissociation with Nanospray LC-FT-ICR Mass Spectrometry on Intact Proteins**; Jennifer S. Cobb[1]; Michael L. Easterling[2]; Jeffrey N. Agar[1]; *[1]Brandeis University, Waltham, MA; [2]Bruker Daltonics, Inc., Billerica, MA*

PROTEOMICS: SAMPLE PREPARATION & METHODS I (BIOFLUIDS)
578 - 589

MP 578 **An Indepth Look at Plasma Peptidome Stability in Different Blood Collection Tubes using LC-MALDI-MS;** David Craft; Jizu Yi; Craig A Gelfand; *BD Diagnostics, Franklin Lakes, NJ*

MP 579 **High Throughput Proteomics LC/MS for Biomarker Validation**; Yixin Zhu; Peter Kent; Lori Ann Upton; Kerry Nugent; *Michrom Bioresources, Inc., Auburn, CA*

MP 580 **Mass Spectrometry Analysis of Sialylated Glycopeptides Isolated from Serum Using Mixed Mode LC Fractionation and Affinity Extraction**;

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Ying-qing Yu; Joomi Ahn; Petra Olivova; Martin Gilar; John Gebler; *Waters Corporation, Milford, MA*

MP 581 **The Efficient Prefrationation Profiling of Low Molecular Weight Serum Proteins in Human Plasma**; Jong BOK Seo[1]; DongGuen Sul[2]; Hye Sook Kim[1]; Jin Hee Lee[1]; Gun Wook Park[1]; Jing Young Kim[1]; sohee Phark[2]; Myung Hee Nam[1]; *[1]Korea Basic Science Institute, Seoul, SOUTH KOREA; [2]Korea University, Seoul, South Korea*

MP 582 **Evaulating Top-Down and Bottom-Up Proteomic Analysis Strategies for the Analysis of Saliva**; Jonathan L. Bundy; Michael S. Gardner; Megan D Rowland; Maureen K. Bunger; James L Stephenson, Jr; *Research Triangle Institute, RTP, NC*

MP 583 **Validity of Diagnostic Protein Markers for Relapse Remitting Multiple Sclerosis is Dependent upon Sample Handling and Storage of patient CSF**; Christine Jelinek; David Wheeler; Avindra Nath; Carlos Pardo; Robert Cotter; *Johns Hopkins School of Medicine, Baltimore, MD*

MP 584 **Endogenous Plasma Peptide Detection and Identification in the Rat by a Combination of Fractionation Methods and Mass Spectrometry**; Fabrice Bertile; Flavie Robert; Véronique Delval-Dubois; Sarah Sanglier; Christine Schaeffer; Alain Van Dorsselaer; *CNRS - IPHC-DSA - ULP, Strasbourg, France*

POSTER SPACE

MP 585 **Digging Deeper and Faster into Proteome by IgY-Immunoaffinity Fractionation**; Xiangming Fang[1]; Lei Huang[1]; Sergey Sikora[1]; Douglas Hinerfeld[2]; Sunny Tam[2]; Pierre Gagné[3]; Guy Poirier[3]; Chris Kusumoto[4]; Kimimichi Obata[4]; David Yang[4]; Wei-wei Zhang[1]; *[1]GenWay Biotech, Inc., San Diego, CA; [2]University of Massachusetts Medical School, Shrewsbury, MA; [3]Laval University, Québec City, Canada; [4]PSS Bio Instruments, Inc., Livermore, CA*

MP 586 **Lectins as Low-Cost and High Throughput Options for Depletion of Abundant Serum Proteins**; Thomas W. Fuller; E. Ellen Schwegler; Michael A. Ward; Lisa H. Cazares; O. John Semmes; Richard R. Drake; *Eastern Virginia Medical School, Norfolk, VA*

MP 587 **A Novel Method for the Quantitative Analysis of the Interstitial Fluid Proteome**; Paul J Skipp[1]; Erika P Parkinson[1]; Maja Aleksic[2]; Daniel J Scott[2]; C David O'Connor[1]; Geraldine Clough[3]; *[1]Centre for Proteomic Research, Univ of Southampton, Southampton, United Kingdom; [2]Safety & Environmental Assurance, Unilever, Bedford, United Kingdom; [3]School of Medicine, Univ of Southampton, Southampton, United Kingdom*

MP 588 **Assessment Approach for Evaluating High Abundance Protein Depletion Methods for Cerebrospinal Fluid (CSF) Proteomic Analysis;** Kevin Shores; Daniel R. Knapp; *Medical University of South Carolina, Charleston, SC*

MP 589 **Pre-Fractionation of Human Plasma Proteome without HPLC: pH Step Separation of Tryptic Peptides with SPE Cartridges;** Weixun Wang; Jun Man; Nathan A. Yates; Ronald C. Hendrickson; *Merck Research Labs, Rahway, NJ*

TUESDAY POSTERS

POSTER SPACE

7:30 – 8:00 am..... All Tuesday posters should be set
10:15 am – 2:30 pm.... All Tuesday poster authors should be present
11:45 am – 12:15 pm.....Lunch break for odd-numbered posters
12:15 – 12:45 pm ..... Lunch break for even-numbered posters
7:30 – 8:00 pm .....Remove all Tuesday posters

INSTRUMENTATION: ION SOURCES I
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TP 004 **Development of a Novel Dual Nebulizer Electrospray Ionization Source for Mass Calibration Reference Correction in Time-of-Flight Mass Spectrometry;** Matthew Giardina; Viatcheslav Artaev; *LECO Corporation, St. Joseph, MI*

TP 005 **Laser Induced Acoustic Desorption/Electrospray Ionization/Mass Spectrometry (LIAD/ESI/MS) for the Detection of Synthetic Polymers and Proteins in Solids under Ambient Conditions**; Sy-Chyi Cheng; Jentaie Shiea; *National Sun Yat-Sen University, Kaohsiung, Taiwan*

TP 006 **Evaluation of an Atmospheric Pressure Resistive Glass Ion Guide to Increase Ion Transfer Efficiency**; Christopher Hilton; Marilyn Prieto; Richard Yost; *University of Florida, Gainesville, FL*

TP 007 **Evaluation of a Novel Vortex-Inducing Air Amplifier for Enhanced Atmospheric-Pressure Ion Source Performance**; Marilyn Prieto; Christopher Hilton; Richard Yost; David Powell; *University of Florida, Gainesville, FL*

TP 008 **Effects of Matrix and Electrospray Solution Composition on Desorption and Ionization of Proteins in Electrospray-Assisted Laser Desorption Ionization Mass Spectrometry**; Ya-Lin Ma; Min-Zong Huang; Jentaie Shiea; *National Sun Yat-Sen University, Kaohsiung, Taiwan*

TP 009 **Observation of the Large Dicobalt Dendrimer Complex on CSI-FT-ICR-MS**; Kazunori Saito[1]; Hisashi Shimakoshi[2]; Daisuke Higo[1]; Shinichi Miki[1]; Yoshihisa Sei[3]; Kentaro Yamaguchi[3]; Yoshio Hisaeda[2]; *[1]Bruker Daltonics KK, Yokohama, Japan; [2]Kyushu Univeristy, Fukuoka, Japan; [3]Tokushima Bunri Univeristy, Sanuki, Japan*

TP 010 **Detecting Organic Compounds Dissolved in Volatile Organic Solvents and Continuously Monitoring Chemical Reactions by Ambient Liquid Mass Spectrometry (ALMS)**; Jingyueh Jeng[2]; Cheng-Hui Yuan[1]; Jentaie Shiea[1]; *[1]National Sun Yat-Sen University, Kaohsiung, Taiwan; [2]Cha-Nan University of Pharmacy and Science, Tinan, Taiwan*

TP 011 **A Microchip APPI Device for Combining GC or LC with MS**; Markus Haapala[1]; Laura Luosujärvi[1]; Ville Saarela[2]; Tapio Kotiaho[1]; Raimo Ketola[1]; Sami Franssila[2]; Risto Kostiainen[1]; *[1]University of Helsinki, Helsinki, Finland; [2]Helsinki University of Technology, Espoo, Finland*

TP 012 **Porous Alumina Surface as a Dual Ionization Laser Desorption Ionization (LDI)-Desorption Electrospray Ionization (DESI) Platform for Increased Peptide Coverage**; Ranu Nayak[1]; Ashis K. Sen[2]; Jian Liu[1]; Daniel R. Knapp[1]; *[1]Medical University of South Carolina, Charleston, SC; [2]University of South Carolina, Columbia, SC*

TP 013 **Electrospray-Assisted Laser Desorption Ionization (ELDI) and Tandem Mass Spectrometry for Proteomic Studies**; Ivory X. Peng[1]; Jentaie Shiea[2]; Joseph A. Loo[1]; *[1]UCLA, Los Angeles, CA; [2]National Sun Yat-Sen University, Kaohsiung, Taiwan*

TP 014 **Field-Free Atmospheric Nebulizers and Discharges**; Edward W. Sheehan; Ross C Willoughby; *Chem-Space Associates, Inc., Pittsburgh, PA*

TP 015 **Development and Testing of a Computer-Controlled Dual Polarity Dual nanoESI Source on a Quadrupole Ion Trap for Ion/Ion Reactions**; Ryan M. Danell[2]; Matthew J. Myer[1]; Allison S. Danell[1]; *[1]East Carolina University, Greenville, NC; [2]Danell Consulting, Greenville, NC*

TP 016 **A New Chip-Based ESI Device Fabricated by Injection Moulding**; Laura A Croasdell; Leonard A. Dillon; Peter R. Fielden; Nick J. Goddard; Victoria N. Stone; C. L. Paul Thomas; *The University of Manchester, Manchester, United Kingdom*

TP 017 **Electrospray Efficiency from the Nanoflow to the High Flow Regime**; Hassan Javaheri; Bradley B, Schneider; Thomas R. Covey; *MDS Sciex, Concord, Canada*

TP 018 **Ambient Liquid Mass Spectrometry (ALMS): Detection of Native Protein Ions Directly from**

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Liquids and Biological Fluids under Ambient Conditions; Cheng-Hui Yuan; Ya-Lin Ma; Jentaie Shiea; *National Sun Yat-Sen University, Kaohsiung, Taiwan*

TP 019 **A New Approach to Atomization of an Electrospray Ion Source**; Charles Jolliffe[1]; Lisa M. Cousins[1]; Gholamreza Javahery[1]; Seguei Savtchenko[1]; Nasser Ashgriz[2]; *[1]IONICS Mass Spec Group, Inc., Concord, Canada; [2]University of Toronto, Toronto, Ontario*

TP 020 **Micropillar Array Electrospray Chip for Analysis of Biomolecules**; Teemu J. Nissilä[1]; Lauri Sainiemi[2]; Tiina Sikanen[1]; Tapio Kotiaho[1]; Sami Franssila[2]; Risto Kostiainen[1]; Raimo A. Ketola[1]; *[1]University of Helsinki, Helsinki, Finland; [2]Helsinki University of Technology, Helsinki, Finland*

TP 021 **The Effect of Ionspray Voltage, Flow Rate and Solvent Composition on an External Porous Polymer Monolith Electrospray Interface's Signal Stability**; Stephen S.H. Lee; Richard D. Oleschuk; *Queen's University, Kingston, Canada*

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TP 022 **The Ion Funnel Interface for MALDI Ion Source Operating at Intermediate Pressure**; Vadym Berkout; *MassTech, Inc., Columbia, MD*

TP 023 **Top Down *de novo* sequencing using Electron Capture Dissociation in Radio Frequency Ion Trap**; Hiroyuki Satake[1]; Hideki Hasegawa[1]; Atsumu Hirabayashi[1]; Yuichiro Hashimoto[1]; Takashi Baba[1]; Izumi Waki[1]; Katsuyoshi Masuda[2]; *[1]Central Research Laboratory, Hitachi Ltd., Tokyo, Japan; [2]Suntory Institute for Bioorganic Research, Osaka, Japan*

TP 024 **Reactive and Soft Landing of Horseradish Peroxidase Cations on *in-situ* Plasma Treated Dry Metal Surfaces**; Matthew J. Diener; Michael Volny; William T. Elam; Frantisek Turecek; *University of Washington, Seattle, WA*

TP 025 **Kinetics of Desorption of Protonated Peptides Soft Landed onto Self-Assembled Monolayer Surfaces (SAMs)**; Omar Hadjar; Jean H. Futrell; Julia Laskin; *PNNL, Richland, WA*

TP 026 **Development of a Handheld Gas-Phase Sample Collection System for Use with a Fieldable Mass Spectrometer**; John Grossenbacher; Adam Keil; J. Mitchell Wells; Garth Patterson; Mark Gregory; Matthew Briscoe; Jason Springston; Dennis Barket, Jr; *Griffin Analytical Tech., LLC, West Lafayette, IN*

TP 027 **Ion Source for Doping of Superfluid Helium Nanodroplets with a High Flux of Low Kinetic Energy Alkali Cations**; Mark E. Ridgeway[1]; Travis M. Falconer[1]; Raymond J. Bemish[2]; Gary L. Glish[1]; *[1]University of North Carolina, Chapel Hill, NC; [2]Pfizer Inc., Groton, CT*

TP 028 **Using Superfluid Helium Nanodroplets to Form Ultracold Ions**; Travis M. Falconer[1]; Mark E. Ridgeway[1]; Raymond J. Bemish[2]; Gary L. Glish[1]; *[1]University of North Carolina, Chapel Hill, NC; [2]Pfizer, Inc., Groton, CT*

TP 029 **Inline Electrospray Current Conductivity Detection for Characterization of Mobile Phase Composition and Gradient Delay**; Adam W Perala; Gary A. Valaskovic; *New Objective, Inc., Woburn, MA*

TP 030 **High-Throughput Improvements for Preparative Mass Spectrometry**; Qingyu Song; Scott A Smith; Zheng Ouyang; R.G. Cooks; *Purdue University, West Lafayette, IN*

TP 031 **Surface-Ionization Mass Spectrometry of Pesticides of Quaternary Ammonium Salts on the Basis of Dipyridyle Derivatives**; Usman Khasanov-[1]; Utkur Rasulev[1]; Dilshodbek Usmanov[1]; Aviv Amirav[2]; *[1]Arifov Institute of Electronics, Tashkent, Uzbekistan; [2]Tel Aviv University, Tel Aviv, Israel*

TP 032 **Surface Roughness Effects on Dimensionally-Scaled Ion Traps**; Wei Xu; Meng Yu; Zheng Ouyang; Graham R. Cooks; William Chappell; *Purdue University, West Lafayette, IN*

TP 033 **Development of an Ion Trap/Orthogonal-TOF Mass Spectrometer for UV Photodissociation of Biomolecules**; Tae-young Kim; James P. Reilly; *Indiana University, Bloomington, IN*

TP 034 **Multi-Dimensional Mass Spectrometry using a Linear Ion Trap with Mass-Selective Axial Ejection Capability**; Yuichiro Hashimoto; Masuyuki Sugiyama; Hideki Hasegawa; *Hitachi, Ltd, Central Research Lab, Kokubunji, Tokyo, Japan*

TP 035 **Reactive and Soft Landing of Polyatomic Hyperthermal Ions on Plasma-treated Metal Surfaces**; Michael Volny; Karl E. Jackson; W. Tim Elam; Frantisek Turecek; *University of Washington, Seattle, WA*

TP 036 **A Novel Interface for Ion Focusing at Elevated Pressures Based on the Tripole RF Ion Guide**; Alexander S. Misharin; Eugene Moskovets; Chaminda M. Gamage; Vladimir M. Doroshenko; Andrey N. Vilkov; *MassTech, Inc., Columbia, MD*

TP 037 **Mini 11 Handheld Mass Spectrometer with an Atmospheric Pressure Interface and a Glow Discharge Source**; Liang Gao[1]; Xinzhao Huang[1]; Ray S. Milks[1]; Jason S. Duncan[1]; Bob K. Schoder[2]; R. Graham Cooks[1]; Zheng Ouyang[1]; *[1]Purdue University, West Lafayette, IN; [2]Creare Inc., Hanover, NH*

TP 038 **Calibration Methods and Recent Deployments of a Membrane Introduction Underwater Mass Spectrometer**; Ryan J. Bell[1]; Strawn K. Toler[2]; R. Timothy Short[3]; Robert H. Byrne[1]; *[1]College of Marine Science, St Petersburg, FL; [2]Center for Ocean Technology, St Petersburg, FL; [3]SRI-St. Petersburg, St. Petersburg, FL*

TP 039 **Bipolar Ion Detector with Enhanced Sensitivity by Sequential Conversion Reactions**; Ming-Hsin Li; Shan-Ting Tsai; Chung-Hsuan Chen; Yi-Sheng Wang; *Academia Sinica, Taipei, Taiwan*

TP 040 **Dual-Source Mass Spectrometer with MALDI-LIT-ESI Configuration**; Scott A. Smith; Thomas A. Blake; Demian R. Ifa; R. Graham Cooks; Zheng Ouyang; *Department of Chemistry, Purdue University, West Lafayette, IN*

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TP 041 **Ion Mobility - Mass Spectrometry as a Tool for Structural Investigation of High m/z Species**; Iain Campuzano[1]; Kevin Giles[1]; James Langridge[1]; Albert Heck[2]; Cees Versluis[2]; *[1]Waters Corporation, Manchester, United Kingdom; [2]Utrecht University, Utrecht, Netherlands*

TP 042 **FAIMS/MS Characterization of Insecticides and Repellents used to Protect Deployed Military Personnel from Insect-Borne Diseases**; Erick Molina; *University of Florida, Gainesville, FL*

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TP 043 **Improving Peptide/Protein Identification with High-Resolution Ion Mobility-Mass Spectrometry Techniques**; Brent Williams[1]; Stephen Valentine[1]; Adam Culbertson[1]; Stormy Koeniger[2]; Xiaoyun Liu[2]; Ruwan T. Kurulugama[2]; S. Sevugarajan[2]; David E. Clemmer[2]; Stephen Naylor[1]; *[1]Predictive Physiology and Medicine, Inc., Bloomington, IN; [2]Indiana University, Bloomington, IN*

TP 044 **Oscillations of Chiral Preference in Proline Clusters**; Sunnie Myung[2]; Patrick K. Lorton[1]; Stormy L. Koeniger[3]; Manolo D. Plasencia[1]; Ryan R. Julian[4]; Mu-Hyun Baik[1]; David E. Clemmer[1]; *[1]Department of Chemistry at Indiana University, Bloomington, IN; [2]Rockefeller University, NY, NY; [3]Abbott Laboratories, Abbott Park, Illinois; [4]Department of UC Riverside, Riverside, CA*

TP 045 **Pushing LDI-IM-oTOF Interface to its Limits: Theoretical and Experimental Ionic Cluster Studies using Selective Collisional-energy Transfer;** F. A. Fernandez-Lima[1]; C. Becker[1]; W. Sun[1]; K. Gillig[1]; M. Chaer-Nascimento[2]; D.H. Russell[1]; *[1]Laboratory for Biological Mass Spectrometry, College Station, TX; [2]Departamento de Quimica- Fisica, UFRJ, Rio de Janeiro, Brasil*

TP 046 **Separation and Identification of Chlorinated Phenols Using Liquid Chromatography with Ion Mobility Spectrometry**; Fatkhulla Tadjimukhamedov[1]; Wolfgang Mueller[1]; Dimitrios Papanastasiou[1]; Hermann Wollnik[2]; Gary Eiceman[1]; *[1]New Mexico State University, Las Cruces, NM; [2]Shimadzu Corporation, Kyoto, Japan*

TP 047 **An Investigation of Protein Therapeutics Including Antibodies and Antibody Conjugates with Ion Mobility Spectrometry**; Bruce Andrien[1]; Rekha Patel[1]; Lynellen Willard[1]; Rachael Alford[1]; Phillip Tan[2]; *[1]Alexion Pharmaceuticals, Chesire, CT; [2]TSI Incorporated, Shoreview, MN*

TP 048 **Separation of Post-Translationally Modified and Analogous Tryptic Peptide Ions by High-Field Asymmetric-Waveform Ion Mobility/ Mass Spectrometry**; Jennifer A. Garrett[1]; Christopher K. Hilton[1]; Matthew J. Pollard[2]; Herbert H. Hill, Jr.[2]; Richard A. Yost[1]; *[1]University of Florida, Gainesville, FL; [2]Washington State University, Pullman, WA*

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TP 050 **Simultaneous Glycomic and Proteomic Strategies using Structural Mass Spectrometry**; Larissa S. Fenn; John A. McLean; *Vanderbilt University, Nashville, TN*

TP 051 **Structural Characterization of Pegylated Protein Therapeutics using Ion Mobility Time-of-flight Mass Spectrometry and Ion/Molecule Chemistry**; Paul Schnier; Dhanashri Bagal; Ryan Holder; Heidi Zhang; Jifeng Zhang; *Amgen, Thousand Oaks, CA*

TP 052 **Evaluating Gas Phase Structure: Coupled H/D Exchange-Ion Mobility Mass Spectrometry**; Christopher Becker; Lei Tao; Yiqun Huang; David Russell; *Texas A&M University, College Station, TX*

TP 053 **Stoichiometry of Antibody Aggregates and Complexes Measured by MacroIon Mobility Spectrometry (IMS)**; Louisette Basa[1]; Katherine Lancaster[1]; Bao-jen Shyong[1]; Phillip Tan[2]; Viswanatham Katta[1]; *[1]Genentech, Inc., South San Francisco, CA; [2]TSI, Inc, Shoreview, MN*

TP 054 **Study of Lipids in Tissues by Ion Mobility Time-Of-Flight Mass Spectrometry**; Michael V. Ugarov[1]; Thomas F. Egan[1]; J. Albert Schultz[1]; Larissa S. Fenn[2]; Michal Kliman[2]; John A. McLean[2]; Shelley N. Jackson[3]; Hay-Yan J. Wang[3]; Amina S. Woods[3]; *[1]Ionwerks, Houston, TX; [2]Vanderbilt University, Nashville, TN; [3]NIDA IRP, Baltimore, MD*

TP 055 **Proteomic Coverage Comparison of On and Offline LC-IMS-MS with Traditional LC-MS Platforms**; Erin Shammel Baker; Brian H. Clowers; Keqi Tang; Eric Livesay; Daniel Orton; William Danielson; Deep Jaitly; Anoop Mayampurath; Fumin Li; Mikhail Belov; Richard D. Smith; *PNNL, Richland, WA*

TP 056 **Structural Studies of Small Molecule Radical Cations using a Variable Temperature Ion Mobility Apparatus**; Jody C. May; Ryan C. Blase; Kent J. Gillig; David H. Russell; *Texas A&M University, College Station, TX*

TP 057 **Ion Mobility-Mass Spectrometry: An aid to Hemoglobin Variant Identification**; Jonathan P Williams[1]; James H Scrivens[1]; Kevin Giles[2]; Brian N Green[2]; Robert H Bateman[2]; *[1]university of warwick, coventry, United Kingdom; [2]Waters, Manchester, UK*

TP 058 **Separation of Ligand-Coordinated Carbohydrate Isomers by Ambient Pressure Ion Mobility (Time-of-flight) Mass Spectrometry**; Maolei Harry Zhu[1]; Brad Bendiak[2]; Prabha Dwivedi[1]; Kim Kaplan[1]; Mathew Pollard[1]; Herbert H. Hill[1]; *[1]Washington State University, Pullman, WA; [2]Health Sciences Center, University of Colorado, Denver, CO*

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TP 059 **Testing Molecular Wire Conductivity by Tandem Mass Spectrometry**; Karen E. Joyce[1]; Meng Lu[2]; Ronald J. Wysocki Jr.[1]; James M. Tour[2]; Vicki H. Wysocki[1]; *[1]University of Arizona, Tucson, AZ; [2]Rice University, Houston, TX*

TP 060 **Investigation of H_2O and O_2 Addition to Gas-phase Acetonitrile-coordinated Vanadyl-halide Cations**; Christopher M. Leavitt[1]; Huanani M. Thomas[2]; Gary S. Groenewold[3]; Garold Gresham[3]; Carol A. Deakyne[2]; Michael J. Van Stipdonk[1]; *[1]Wichita State University, Wichita, KS; [2]University of Missouri, Columbia, MO; [3]Idaho National Laboratory, Idaho Falls, ID*

TP 061 **Cluster Ions as Reagent Species in Ion-Ion Reactions with Multiply-charged Biomolecules**; Jeremiah Bowers; Brittany D.M. Hodges; Scott A. McLuckey; *Purdue University, West Lafayette, IN*

TP 062 **The Study of para-Benzynes via Gas-Phase Ion-Molecule Reactions in a Fourier-Transform Ion Cyclotron Resonance Mass Spectrometer**; Lindsey M. Kirkpatrick; Hilkka I. Kenttämaa; *Purdue University, West Lafayette, IN*

TP 063 **The Influence of a Hydroxy Substituent on the Reactivity of the 2,4,6–Tridehydropyridinium Ion**; Bartlomiej J. Jankiewicz; John J. Nash; Hilkka I. Kenttämaa; *Purdue University, West Lafayette, IN*

TP 064 **Reactivity of Cationic Metal-Aromatic/Cyclic Clusters**; Gregory K. Koyanagi; Diethard K. Bohme; *York University, Toronto, Canada*

TP 065 **H/D Exchange of Deprotonated Amino Acids and Peptides**; Zhixin Tian; Steven R. Kass; *Department of chemistry, University of Minnesota, Minneapolis, MN*

TP 066 **Using Structurally Diagnostic Fragment Ions to Distinguish Constitutional Isomers by MS^2: The case of α-acylnaphthones and β-acylnaphthones**; Mario Benassi Neto; Marcos N. Eberlin; *ThoMSon Mass Spectrometry Laboratory - UNICAMP, Campinas, Brazil*

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TP 067 **Reactivity and Kinetics of meta-bis-allylphenyl anion**; Matthew Lenington; Paul G. Wenthold; *Purdue University, West Lafayette, IN*

TP 068 **Chemical Noise Reduction in Mass Spectrometry using Selective Ion-Molecule Reactions**; Michael J. Y. Jarvis; Gregory K. Koyanagi; Diethard K. Bohme; *York University, Toronto, Canada*

TP 069 **Application of Gas-Phase Ion-Molecule Reactions in Mass Spectrometric Identification of the Functionalities in Amino Acids**; Sen Li; Mingkun Fu; Hilkka I. Kenttämaa; *Purdue University, West Lafayette, IN*

TP 070 **Identification of the Amino Functional Group in Protonated Pre-derivatized Analytes by Mass Spectrometry**; Karinna Campbell[1]; Sen Li[1]; Jennifer Reece[1]; Hilkka Kenttämaa[1]; Brian Winger[2]; *[1]Purdue University, West Lafayette, IN; [2]Eli Lilly & Company, Indianapolis, IN*

TP 071 **Gas-phase Reactions of Phenyl Radicals and Biradicals with Trinucleotides in an FT-ICR Mass Spectrometry**; Zhicheng Jin; Linan Yang; Nishi Rochell; Hilkka I Kenttamaa; *Purdue University, West Lafayette, IN*

TP 072 **Mixed Silver/Copper Clusters Mediate C-X Bond Activation**; George N. Khairallah; Tom Waters; Richard AJ O'Hair; *BIO21 Institute, The University of Melbourne, Melbourne, Australia*

PEPTIDES: FRAGMENTATION & SEQUENCING II 073 - 089

TP 073 **Influence of a 4-aminomethylbenzoic Acid Residue on Competitive Fragmentation Pathways during CID of Metal Cationized Peptides**; Sandra Osburn; Erach Talaty; Sila Ochola; Michael J. Van stipdonk; *Witchita State University, Wichita, KS*

TP 074 **Multiple-Stage Tandem MS of Isotope Labeled Leucine Enkephalin**; Travis J. Cooper; Michael J. Van Stipdonk; *Wichita State University, Wichita, KS*

TP 075 **Photodissociation of Peptides in a Commercial TOF-TOF Instrument with 157 nm Light**; Liangyi Zhang; James P. Reilly; *Indiana university, Bloomington, IN*

TP 076 **The Gas-Phase Neutral Loss of H_3PO_4 from Protonated Phosphopeptides Does NOT Predominantly Occur via a Charge Remote β-elimination Mechanism;** Amanda M. Palumbo; Gavin E. Reid; *Michigan State University, East Lansing, MI*

TP 077 **The "Proline-Effect" in Peptide Fragmentation**; Christian Bleiholder[1]; Alex G. Harrison[2]; Sandor Suhai[1]; Bela Paizs[1]; *[1]German Cancer Research Center, Heidelberg, Germany; [2]University of Toronto, Toronto, Canada*

TP 078 **Gold Cation Switching Ion-Ion Reactions: The Role of Sulfur Containing Residues in Fragmentations of Polypeptide Ions**; Brittany D.M. Hodges; Xiaorong Liang; Scott A. McLuckey; *Purdue University, West Lafayette, IN*

TP 079 **MALDI-TOF/RTOF Mass Spectrometry of Peptides at Collision Energies of 20kV and 2kV – Differences in Ion Intensities and/or Fragment Types**; Martina Marchetti[1]; Pavel Rehulka[2]; Josef Chmelik[2]; Emmanuel Raptakis[3]; Günter Allmaier[1]; *[1]Vienna University of Technology, Vienna, Austria; [2]Academy of Sciences of the Czech Republic, Brno, Czech Republic; [3]Shimadzu Biotech-Kratos Analytical, Manchester, UK*

TP 080 **MS/MS Simplification by Ultraviolet Photodissociation of Chromogenically Derivatized Peptides in a Quadrupole Ion Trap;** Jeffrey Wilson; Jennifer Brodbelt; *University of Texas at Austin, Austin, TX*

TP 081 **Sequence Scrambling Pathways of Protonated Peptides Upon CID**; Christian Bleiholder[1]; Travis Cooper[2]; Jerod Groves[2]; Alex B. Young[3]; Sándor Suhai[1]; Michael Van Stipdonk[2]; Alex G. Harrison[3]; Bela Paizs[1]; *[1]German Cancer Research Center, Heidelberg, Germany; [2]Wichita State University, Wichita, KS; [3]University of Toronto, Toronto, Canada*

TP 082 **Mechanistic Studies on the Gas-phase Fragmentation Reactions of Oxidative Peptide Modifications and Their Effect on MS/MS Database Search Scores**; Jennifer M. Froelich; Gavin E. Reid; *Michigan State University, East Lansing, MI*

TP 083 **Is a Charge Tag Really Fixed?**; Yi He; James P. Reilly; *Indiana University, Bloomington, IN*

TP 084 **A Contribution of Ion Mobility Mass Spectrometry to the Investigation of Peptide Fragment Ion Structure**; Isabel Riba[1]; Kevin Giles[2]; Simon J Gaskell[1]; *[1]University of Manchester, Manchester, United Kingdom; [2]Waters Corp., Manchester, UK*

TP 085 **Recognition of Aspartic Acid Isomeric Forms in "Alzheimer Peptide" using AP MALDI**; Aleksey S. Kononikhin[2]; Igor A. Popov[1]; Sergey A. Kozin[3]; Eugene Nikolaev[1]; *[1]The Institute for Energy Problems of Chemical Phys, Moscow, Russian Federation; [2]Institute for Biohemical Physics, Moscow, Russia; [3]Institute for Biomedical Chemistry, Moscow, Russia*

TP 086 **$[c+2H]^+$ Ions and $[z–H]^+$ Ions in the Fragmentations of Radical Cations of Oligopeptides Containing a Tyrosine or Tryptophan Residue**; Yuyong Ke; Andy C. K. Siu; Alan C. Hopkinson ; K.W. Michael Siu; *CRMS/York University, Toronto, Canada*

TP 087 **C-Terminal Fragmentation of Singly-Protonated, Arginine-Containing Peptides: Metastable Loss of C-Terminal Histidine, Lysine, and Arginine Characterized by MALDI-FTMS**; Elizabeth A. Stemmler; Christopher R. Cashman; Patsy S. Dickinson; *Bowdoin College, Brunswick, ME*

TP 088 **Investigation of the Fragmentation of b_3^+ Ions That Contain a γ-Amino Acid using Isotope Labeling and Multiple-Stage Tandem MS**; Chawalee Chueachavalit; Erach Talaty; Michael J. Van stipdonk; *Witchita State University, Wichita, KS*

TP 089 **Fragmentation of Protonated RGD: A Combined Modeling and Tandem MS study**; Benjamin Bythell[1]; Douglas F. Barofsky[1]; Bela Paizs[2]; *[1]Oregon State University, Corvallis, OR; [2]German Cancer Research Center, Heidelberg, Germany*

ENVIRONMENTAL ANALAYSIS: WATER 090 - 104

TP 090 **Analysis of Pharmaceuticals in Wastewater Effluents by Liquid Chromatography – Electrospray Ionization-Tandem Mass Spectrometry**; Despina Tsipi; Charalampia Frosyni; Eleni Botitsi; *General Chemical State Laboratory, Athens, Greece*

TP 091 **Analysis of Steroid Estrogens in Water using Liquid Chromatography/Tandem Mass Spectrometry with Chemical Derivatizations**; Ying-Hsuan Lin; Chia-Yang Chen; Gen-Shuh Wang; *National Taiwan University, Taipei City, Taiwan*

TP 092 **Selective Bioaccumulation of PFOS Isomers in the Lake Ontario Food Web**; Jeff M. Small[1]; Gertje Czub[2]; Mehran Alaee[1]; Derek C.G. Muir[1]; Takeo Sakuma[3];

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Robert Ellis[3]; Andre Schreiber[3]; *[1]Environment Canada, Burlington, Canada; [2]Department of Applied Environmental Science, Stockholm, Sweden; [3]Applied Biosystems-MDS-SCIEX, Concord, Canada*

TP 093 **New Residues of Pesticides in Drinking Water: Determination of Chloridazon Metabolites by LC/MS/MS**; Detlev Schleuder[1]; Axel Besa[1]; Wolfgang Schulz[2]; Wolfram Seitz[2]; Walter Weber[2]; *[1]Applied Biosystems, Darmstadt, Germany; [2]Zweckverband Landeswasserversorgung, Langenau, Germany*

TP 094 **Analysis of Water for Pesticides at Low Parts per Trillion (ppt) Levels using Two Dimensional LCMSMS without Any Sample Pre-treatment**; Iain Gibb[1]; *[1]Applied Biosystems, Warrington, United Kingdom; [2]ALcontrol, Rotherham, United Kingdom*

TP 095 **Chlorinated vs. Chloraminated Drinking Water: Toxicity-Based Identification of Disinfection By-Products Using ESI-MS and ESI-MS/MS**; Susan Richardson[1]; F. Gene Crumley[1]; Francesca Fasano[2]; Michael J. Plewa[3]; Elizabeth D. Wagner[3]; Todd H. Mize[4]; Peggi Angel[4]; Ron Orlando[4]; Leah N. Williamson[4]; Michael G. Bartlett[4]; *[1]US EPA, Athens, GA; [2]University of Torino, Torino, Italy; [3]University of Illinois, Urbana, IL; [4]University of Georgia, Athens, GA*

TP 096 **Simultaneous On-Line Measurement of AOP Degradation Kinetics for Trace Gasoline Components in Aqueous Solutions and Natural Waters by MIMS-MS/MS**; Janet H. L. Nelson; Jacob M. Etzkorn; Michelle C. Lamarche; Duane A. Friesen; Erik T. Krogh; ChristopherG. Gill; *AERL, Malaspina University-College, Nanaimo, Canada*

TP 097 **Liquid Chromatography Tandem Mass Spectrometry Characterization of New Drinking Water Disinfection Byproducts**; Yuanyuan Zhao; Jessica Boyd; Steve Hrudey; Feng Qin; Xing-Fang Li; *University of Alberta, Edmonton, Canada*

TP 098 **The Influence of Bromide, Iodide and Copper Ions on the Aquatic Chlorination of 1-methylnaphthalene**; Olga Polyakova; Marina Polyakova; Albert Lebedev; *Moscow State University, Moscow, Russian Federation*

TP 099 **Analysis of Regulated Pesticides in Drinking Water Using Large Volume Injections, Online Pre-Concentration, and Fast HPLC**; Jonathan R. Beck; Charles T. Yang; *Thermo Fisher Scientific, San Jose, CA*

TP 100 **Determination of Pharmaceuticals in Environmental Water Samples by Liquid Chromatography Coupled with Electrospray Ionization Tandem Mass Spectrometry**; Cheon-Ho Jo; Seung-Woon Myung; *Kyonggi University, Suwon, South Korea*

TP 101 **Determination and Quantitation of Ten Pesticides in Drinking Water by use of Solid Phase Extraction and ESI-LCMS**; Scott Niemann[1]; Robert Hobson[2]; Dr. James Chapman[3]; *[1]CSS Analytical Company, Inc., Shawnee, KS; [2]AM Laboratories Inc., Olathe, KS; [3]Rockhurst University, Kansas City, MO*

TP 102 **Resolving Unresolved Complex Mixtures: Offline Coupling of Liquid Chromatography and Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; Boris Koch[1]; Thorsten Dittmar[2]; Matthias Witt[3]; Gerhard Kattner[1]; *[1]Alfred-Wegener-Institute for Marine Research, Bremerhaven, Germany; [2]Florida State University, Dep. of Oceanography, Tallahassee, FL; [3]Bruker Daltonik GmbH, Bremen, Germany*

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TP 103 **Determination of Ecologically Relevant Pharmaceuticals and Their Selected Metabolites in Effluent and Surface Water using UPLC/MS/MS**; Angela L. Batt; Mitch Kostich; James M. Lazorchak; *U.S. Environmental Protection Agency, Cincinnati, OH*

TP 104 **Are Halogenated Aminoxy Alcohols Disinfection By-products in Treated Drinking Water? The Need for Accurate Masses in Chemical Ionization Experiments**; Vincent Y. Taguchi[1]; Moschoula A. Trikoupis[1]; Jie Xing[2]; Karl J. Jobst[2]; Johan K. Terlouw[2]; *[1]Ministry of the Environment, Toronto, Canada; [2]McMaster University, Hamilton, Canada*

POLYMERS
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TP 105 **Qualitative and Quantitative Determination of Tyloxapol in Ophthalmic Formulations using HPLC Rapid Resolution and MS Detection;** Louis-Philippe Labranche; Andrei Nicolau; Alain Carrier; *Sandoz, Boucherville, Canada*

TP 106 **Degradation of Polymeric Ballistic Materials**; Eun Su Park; Kathleen M. Flynn; Gale A. Holmes; Charles M. Guttman; William E. Wallace; *NIST, Gaithersburg, MD*

TP 107 **Analysis of Polymeric Materials using GPC with On-Line ESI Mass Spectrometry and Viscometry**; X. Michael Liu[1]; E. Peter Maziarz[2]; William J. Simonsick, Jr. [3]; *[1]Bausch & Lomb, Inc. Global R&D, Rochester, NY; [2]Ethicon (a Johnson & Johnson Company), Somerville, NJ; [3]DuPont Marsh Laboratory, Philadelphia, PA*

TP 108 **LC-MALDI – Functional Separation of Synthetic Polymers for Differentiating Materials**; William Nichols; Andrew Hoteling; *Eastman Kodak Company, Rochester, NY*

TP 109 **Characterization of Polysorbate 80 in Biotherapeutic Formulations using Mass Spectrometry**; James A. Carroll; Steven Z. Kan; Matthew R. Farber; Scott I. Allen; *Pfizer, Chesterfield, MO*

TP 110 **MALDI-TOF Analysis of Polymers by Using Tailor-Made Fluorinated Azobenzene and Stilbene Matrices**; Arpad Somogyi; Pang Shu; Anne Padias; Doug Hall; Henry Hall, Jr; *University of Arizona, Tucson, AZ*

TP 111 **Analysis of Secondary Organic Aerosol Constituents using Desorption-Electrospray Ionization Tandem Mass Spectrometry;** Marc Fiddler; Paul Shepson; *Purdue University, West Lafayette, IN*

TP 112 **MALDI TOF MS Analysis of Polystyrene in the Mega Dalton Mass Range**; Alexander Aksenov; Mark E Bier; *Carnegie Mellon University, Pittsburgh, PA*

TP 113 **Laser ablation ICP-MS for Surface-Contaminated 300 mm Si Wafer**; Heung Bin Lim[1]; W. K. Ryu[1]; J. S. Lee[2]; J. S. Kim[1]; P. K. Jun[2]; *[1]Dankook University, Seoul, South Korea; [2]Samsung Electroincs, Kiheung, South Korea*

TP 114 **New Approach to Mass Spectrometric Analysis for High Molecular Weight Synthetic Polymers using Ultrasonic Degradations and the Mechanism of Degradation**; Ryuichi Arakawa; Yoshiki Takeda; Hideya Kawasaki; *Kansai University, Osaka, Japan*

TP 115 **Characterization of Linear and Hyperbranched Acrylate Polymers**; Kittisak Chaicharoen; Michael J. Polce; Coleen Pugh; Chrys Wesdemiotis; *The university of Akron, Akron, OH*

TP 116 **Use of Graphite as a Simple MALDI Matrix for Synthetic Polymer Applications**; Philip C. Price; *The Dow Chemical Company, South Charleston, WV*

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TP 117 **Determination of Brominated Flame Retardants by Soft Laser Desorption/Ionization-Mass Spectrometry using a Germanium Nanodot Chip as an Ionization Platform**; Hiroaki Sato; Atsushi Nemoto; Atsushi Yamamoto; Masaki Torimura; Hiroaki Tao; *Natl. Inst. Adv. Ind. Sci. & Technol. (AIST), Tsukuba, Japan*

TP 118 **Extracting Information from the Unresolved Envelope Observed in Electrospray MS of Strongly Ionic Synthetic Copolymers and Homopolymer Mixtures**; Huifang Yao; Kelsey Cook; *University of Tennessee-Knoxville, Knoxville, TN*

TP 119 **ESI-TOF MS Investigation of Oligomeric Surface-Protection in Monolayer-Protected Nanoparticles**; Anthony P. Gies; David M. Hercules; Aren E. Gerdon; David E. Cliffel; *Vanderbilt University, Nashville, TN*

TP 120 **Notation for Tandem Mass Spectra of Synthetic Polymers: Polyethers**; Tony Jackson; *ICI plc, Redcar, United Kingdom*

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TP 122 **High Temperature MALDI: Mass Spectrometry of Polyethylene as a Function of Sample Temperture**; William E. Wallace; William R. Blair; *National Institute of Standards & Technology, Gaithersburg, MD*

TP 123 **Mass Spectrometry of Nonpolar Polymers by Desorption Chemical Ionization Method**; Shuji Kagawa; Masatomi Ozawa; *Mitsubishi Chemical Group, Science and Technology, Yokohama, Japan*

TP 124 **Challenges in MALDI MS Analysis of Polystyrene Stars, Copolymers, and Sensitive Functionalized Polymers**; Michael J. Polce; Camila Garces; Jonathan Janoski; Manuela Ocampo; Michael Olechnowicz; Roderic P. Quirk; Chrys Wesdemiotis; *The University of Akron, Akron, OH*

TP 125 **Characterization of Polypropylene Homopolymers by Mild Pyrolysis and MALDI-TOF-Mass Spectrometry**; David Dabney; Michael Polce; Chrys Wesdemiotis; *University of Akron, Akron, OH*

TP 126 **MALDI-TOF/TOF CID Studies of Styrenic Polymer Fragmentation Reactions**; David M. Hercules; Anthony P. Gies; Matthew J. Vergne; Rebecca L. Orndorff; *Vanderbilt University, Nashville, TN*

TP 127 **Quantitative Analysis of Tensoactives in Synthetic Latex Samples by Means of High-Resolution Mass Spectrometry**; Jose-Luis Gallegos-Perez[2]; Cristina Fonseca-Corona[1]; Luz-Elena Vera-Avila[1]; *[1]National Autonomous University of Mexico, Mexico city, Mexico; [2]National Institute of Genomic Medicine, Mexico, Mexico City, Mexico*

TP 128 **Profiling Impurities in a Taxol Formulation: Application of a Mass-Dependent Mass Defect Filter to Remove Polymeric Excipient Interferences**; Haiying Zhang; Kenneth Ray; *Bristol-Myers Squibb Pharm Res, Princeton, NJ*

TP 129 **Challenges in the Mass Spectrometry Analysis of Poly(dichlorophosphazene)s**; Alyison M. Leigh; Claire A. Tessier; Chrys Wesdemiotis; *The University of Akron, Akron, OH*

TP 130 **Copolymer Analysis using MALDI-TOF Mass Spectrometry and Statistics**; Mark Arnould; *Xerox, Webster, NY*

TP 131 **CID Fragmentation of Cyclic Caprolactam Adduct Ions Depending on Ionisation Mode and Collision Energy**; Martin Resch[1]; Karsten Rode[2]; Joseph Fox[3]; Harald Pasch[2]; *[1]Shimadzu Europa GmbH, Duisburg, Germany; [2]German Institute for Polymers, Darmstadt, Germany; [3]Shimadzu Scientific Instruments Inc., Columbia, MD*

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TP 132 **Indirect Identification of Haemoglobin-Based Oxygen Carriers in Equine Plasma using Liquid Chromatography/Tandem Mass Spectrometry**; Colton H F Wong[1]; Gary N W Leung[1]; Terence S M Wan[1]; Shawn Stanley[2]; *[1]The Hong Kong Jockey Club, Hong Kong, Hong Kong; [2]Singapore Turf Club, Singapore, Singapore*

TP 133 **Development and Validation of a Quantitative LC-MS/MS Method for Ten Perfluorinated Compounds in Human Breast Milk**; Syrago Styliani E Petropoulou[1]; Andrew Lindstrom[2]; Mark Strynar[2]; Laurence Helfant[3]; Xibiao Ye[2]; Shoji Nakayama[1]; *[1]Oak Ridge Institute for Science and Education, Oak Ridge, TN; [2]HEASD/NERL/MDAB, US EPA, Research Triangle Park, NC 27711; [3]Senior Environmental Employment Program, National, Washington, DC*

TP 134 **Effectiveness of Surface Activated Chemical Ionization Mass Spectrometry in Trace Analysis of Street Drugs in Non Pre-Purified Hair Samples**; Simone Cristoni[1]; Luigi Rossi Bernardi[2]; *[1]ISB, Italy, Italy; [2]Multimedica Laboratories, Milan, Italy*

TP 135 **High Throughput Nano-LC/ESI-MS with Microfluidic Gradient Generation**; Hongfeng Yin; Reid A. Brennen; Kevin P Killeen; *Agilent Technologies, Santa Clara, CA*

TP 136 **Novel Uses of Ion Chromatography Suppressors Prior to ESI-MS**; Rosanne Slingsby; *Dionex Corp, Sunnyvale, CA*

TP 137 **Development of an LC-MS^n Method for the Detection of Ziconotide in Horse Serum**; Jhoana Mendoza[1]; Keith D. Zientek[2]; Patrick T. Russell[3]; Richard A. Sams[3]; John R. Eyler[1]; Laszlo Prokai[4]; *[1]University of Florida, Gainesville, FL; [2]BASi Northwest Laboratory Services, McMinnville, OR; [3]UF College of Vet. Med. Racing Laboratory, Gainesville, FL; [4]University of North Texas Health Science Center, Fort Worth, TX*

TP 138 **Analysis of Primary and Secondary Organic Aerosols by LC-MS/MS;** James C Reynolds; Lucy J Carpenter; Alastair C Lewis; *University of York, York, United Kingdom*

TP 139 **Simultaneous LC-MS/MS Determination of Sildenafil and Related Analogues Added Illegally to Herbal Products Intended for the Treatment of Erectile Dysfunction**; Martin Dušek[1]; Miloslav Šanda[2]; Petr Cuhra[1]; Sona Baršová[1]; *[1]Czech Agriculture and Food Inspection Authority, Prague, Czech Republic; [2]Institute of Organic Chemistry and Biochemistry, Prague, Czech Republic*

TP 140 **A New Mass Spectrometric Method for the Assay of N^8-Acetylspermidine Deacetylase**; Yongyuan Zhao; James W. Blankenship; JianHua Ren; O. David Sparkman; Patrick R. Jones; *Univerisity of the Pacific, Stockton, CA*

TP 141 **Detection of Stanozolol in Equine Biological Matrix using an Alternate Separation Technique with FAIMS Tandem MS-MS;** Benjamin C Moeller; Scott D Stanley; Roland P Carlson; Daniel McKemie; *University of California at Davis, Davis, CA*

TP 142 **A Sensitive Enantioselective Method for Determination of Reboxetine Isomers in Plasma & Tissue using Automated Sample Preparation with**

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LC\MS\MS Analysis; Joe Palandra; Desiree Watson; Felicia Kpakima; Ayman El-Kattan; Lucinda Cohen; *Pfizer, Ann Arbor, MI*

TP 143 **Analysis of Beer Using a High Speed U-HPLC Coupled to a Hybrid Linear Ion Trap Mass Spectrometer;** Gary Woffendin; Katerina Klagkou; Michaela Scigelova; *Thermo Fisher Scientific, Hemel Hempstead, United Kingdom*

TP 144 **Retention Time Conversion for Cross-Platform Transfer of HPLC-MS/MS Proteomics Data**; Irina A. Tarasova[1]; Christophe D. Masselon[3]; Marina L. Pridatchenko[1]; Sylvie Kieffer-Jaquinod[3]; Vilem Guryca[3]; Jerome Garin[3]; Alexander V. Gorshkov[2]; Victor V. Evreinov[2]; Mikhail V. Gorshkov[1]; *[1]Institute of Energy Problems of Chemical Physics, Moscow, Russia; [2]Institute of Chemical Physics, Moscow, Russia; [3]CEA Grenoble, EDyP laboratory, INSERM U 880, Grenoble, France*

TP 145 **Drugs as New Environmental Contaminants: Photocatalytic Degradation Process as a Tool to Study Biological/Environmental Fate of Salbutamol and Atenolol**; Claudio Medana[1]; Paola Calza[1]; Enrico Davoli[2]; Claudio Baiocchi[1]; *[1]Universita' degli Studi di Torino, Torino, Italy; [2]Istituto Mario Negri, Milano, Italy*

TP 146 **Rapid identification of Soil Degradates using Accurate Mass, MS/MS Data, and Isotopic Pattern Recognition;** Sara J. Linder; Jesse L. Balcer; Robin N. Yoder; Pete L. Johnson; Mark Krieger; Jeffrey R. Gilbert; *Dow AgroSciences, Indianapolis, IN*

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TP 148 **ProteomeWorkflow : Workflow Tool for Building Proteomics Workflows**; David Lentz; Christopher J Mason; Rudi Chiarito; H. Robert Bergen III; *Mayo Clinic, Rochester, MN*

TP 149 **PRIME: Proteome Research Information Management Environment For High-Throughput Proteomics Laboratories**; Panagiotis G. Papoulias[1]; David H. Lentz[2]; Philip C. Andrews[1]; *[1]National Resource For Proteomics And Pathways, Ann Arbor , MI; [2]MayoClinic, Rochester, MN*

TP 150 **A Comprehensive Data Processing Workflow for Topdown Proteomics**; Frank Li; Peter Baker; Feixia Chu; Robert Chalkley; Shenheng Guan; Al Burlingame; *University of California, San Francisco, CA*

TP 151 **Assessment and Control of False Positive Rates in Large-scale Proteomic Studies using Randomized Protein Sequence Databases**; Guanghui Wang; Wells W. Wu; Rong-Fong Shen; *NHLBI, NIH, Bethesda, MD*

TP 152 **Recent Advances in Performance and Search Engine Compatibility in the Trans-Proteomic Pipeline: Combining Phenyx and the Proteomic Pipeline for Quantitation;** Bryan J. Prazen; Brian S. Pratt; Erik J. Nilsson; *Insilicos, Seattle, WA*

TP 153 **Combining Spectral Library Searching with Sequence Searching of MS/MS Peptide Spectra**; Paul Rudnick[1]; Stephen H. Bryant[2]; Lewis Y. Geer[2]; Lisa E. Kilpatrick[1]; Jeffrey A. Kowalak[3]; Sanford P. Markey[3]; Yuri Mirokin[1]; Stephen E. Stein[1]; Ming Xu[2]; *[1]National Institute of Standards and Technology, Gaithersburg, MD; [2]National Center for Biotechnology Information, Bethesda, MD; [3]National Institute of Mental Health, Bethesda, MD*

TP 154 **BUDSS: A Software Shell for Automated MS Data Processing and Management**; Yang Su[1]; Sequin Huang[2]; Hua Huang[3]; David H. Perlman[1]; Catherine E. Costello[1]; Mark E. McComb[1]; *[1]Boston University, Boston, MA; [2]Waters Corp, Milford, MA; [3]Allergan Inc, Irvine, CA*

TP 155 **ProtQuant Suite: A Software Tool for Protein Quantification in High-Throughput Proteomics**; Milan Madera[1]; Yehia Mechref[2]; Benjamin Mann[1]; Quanhu Sheng[3]; Haixu Tang[3]; Milos V. Novotny[1]; *[1]Indiana University, Bloomington, IN; [2]National Center for Glycomics and Glycoproteomics, Bloomington, IN; [3]School of Informatics, Bloomington, IN*

TP 156 **Gene Annotation in Toxoplasma gondii**; Dmitrij Rykunov; Carlos Madrid; Edward Nieves; Fa-Yun Che; Hui Xiao; Kami Kim; Louis Weiss; Ruth Hogue Angeletti; Andras Fiser; *Albert Einstein College of Medicine, Bronx, NY*

TP 157 **MassSieve: A New Visualization Tool for Mass Spectrometry-based Proteomics**; Douglas J. Slotta; Melinda A. McFarland; A. James Makusky; Sanford P. Markey; *NIMH/NIH, Bethesda, MD*

TP 158 **Information Architecture for a High Throughput Proteomics Laboratory**; Donald J. Johann[2]; Josip Blonder[1]; Timothy D. Veenstra[1]; Ming Zhou[1]; *[1]SAIC-Frederick, Frederick, MD; [2]National Cancer Institute, Bethesda, MD*

TP 159 **ISPIDER Central: A Novel Bioinformatic Infrastructure for Accessing, Comparing and Adding Value to Proteomic and Mass Spectrometric Data;** Jennifer Siepen[1]; Khalid Belhajjame[1]; Lucas Zamboulis[2]; Nigel Martin[2]; Alex Poulovassilis[2]; Julian Selley[1]; Norman Paton[1]; Suzanne Embury[1]; Simon Hubbard[1]; *[1]University of Manchester, Manchester, United Kingdom; [2]Brikbeck College, London, UK*

TP 160 **An Integrated System for Proteomic Mass Spectrometric Data Management and Analyses**; Sung Kyu Park; Tao Xu; Daniel Cociorva; Bingwen Lu; Claire Delahunty; Lujian Liao; Cristian Ruse; Johannes Hewel; John R. Yates III; *Scripps Research Institute, La Jolla, CA*

TP 161 **Enhancing the OMSSA Browser: Embedding the OMSSA MS/MS Search Engine and Protein Level Data Processing for Bottom-up Proteomics**; Ming Xu; Lewis Y. Geer; Stephen H. Bryant; *NCBI/NLM/NIH, Bethesda, MD*

TP 162 **Building Peptide Mass Spectral Libraries from Bacterial Proteomes Analyzed by 2D-LC-MS/MS**; Lisa E. Kilpatrick[1]; Nikole Kimes[2]; Pamela J. Morris[2]; Jeri Roth[1]; Paul Rudnick[1]; Xiaoyu Yang[1]; Stephen E. Stein[1]; *[1]National Institute of Standards and Technology, Gaithersburg, MD; [2]Medical University of South Carolina, Charleston, SC*

TP 163 **Data Analysis Strategy for Comprehensive and Confident Coverage of the Human Salivary Proteome**; Daniel Cociorva; Tao Xu; Sung Kyu Park; Bingwen Lu; Lujian Liao; Claire Delahunty; John R Yates; *The Scripps Research Institute, La Jolla, CA*

TP 164 **Tranche Open and Secure Proteomics Data Sharing and Google-Like Interface for Searching Proteomics**

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Data; Philip C. Andrews; Jayson A. Falkner; *University of Michigan, Ann Arbor, MI*

TP 165 **High-Throughput Data Management of Shotgun IEF Results by ProteinScape**; Alexis Chauvet[1]; Pierre-Alain Binz[2]; Ali R. Vaezzadeh[1]; Catherine G. Zimmermann-Ivol[1]; Patricia M. Palagi[2]; Ron D. Appel[2]; Herbert Thiele[5]; Denis Hochstrasser[1]; *[1]BPRG, University Hospital, Geneva, Switzerland; [2]Proteome Informatics G., Swiss Inst. Bioinform., Geneva, Switzerland; [3]Geneva Bioinformatics (GeneBio) S.A., Geneva, Switzerland; [4]Computer Science Department, Geneva University, Geneva, Switzerland; [5]Bruker Daltonics GMBH, Bremen, Deutschland*

TP 166 **A Software Suite to Expedite the Study of Cell Signaling Pathway: Automated Acquisition, Organization and Annotation**; Kebing Yu; *Brown University, Providence, RI*

TP 167 **Redundancy of Protein Databases: Problems and Solutions;** Morten Bern; Ole Vorm; Alexandre Podtelejnikov; *Proxeon A/S, Odense, Denmark*

TP 168 **Creation and Optimization of Mass Spectrometry Diagnostic Workflows using a Visual Programming Interface**; Maciek Sasinowski[1]; Krista Miller[1]; Jason Miller[1]; Dough Hawkins[1]; Nick Glover[1]; Heather Sasinowska[1]; Dariya Malyarenko[2]; Maureen Tracy[2]; Liang Wei[2]; Haijian Chen[2]; Christine Bunai[2]; Karl Kuschner[2]; John Semmes[3]; Richard Drake[3]; Eugene Tracy[2]; Dennis Manos[2]; William Cooke[2]; *[1]INCOGEN, Inc, Williamsburg, VA; [2]College of William and Mary, Williamsburg, Virginia; [3]Eastern Virginia Medical School, Norfolk, VA*

TP 169 **Corra: Computational Tools for Discovery and Targeted Mass Spectrometry: Application to Candidate Biomarker Identification for Human Type 2 Diabetes**; Mi-Youn Brusniak[1]; Simon Letarte[1]; Olga Vitek[2]; David Campbell[1]; Lukas Muller[3]; Vagisha Sharma[1]; James Eddes[1]; Julian Watts[1]; Ruedi Aebersold[1]; *[1]Institute for Systems Biology, Seattle, WA; [2]Statistics and Computer Science, Purdue University, West Lafayette, IN; [3]Institute of Molecular Systems Biology, Zurich, Switzerland*

TP 170 **Bioinformatical Data Mining in Shotgun Proteomics;** Morten Bern; Hans Jespersen; Alexandre Podtelejnikov; Peter Venø; Martin Damsbo; Soren Larsen; Brian Ramsgaard; Erik Nielsen; Jacob Kristensen; Kenneth Budin; John Chakel; Ole Vorm; *Proxeon A/S, Odense, Denmark*

TP 171 **Interactive Visualization of Omics Molecular Expression Networks**; Mingwu Zhang; Michael Kane; David Salt; Sunil Prabhakar; Charles Buck; Fred Regnier; Xiang Zhang; *Purdue University, West Lafayette, IN*

TP 172 **Evaluation of Different Strategies for Constructing Decoy Sequence Databases**; Roger Moore; Mary K. Young; Terry D. Lee; *Beckman Research/City of Hope, Duarte, CA*

TP 173 **Procedures and Guidelines for the Validation of MS Based Database Search Protocols for Unequivocal Protein Identification;** Jackie Mosely[1]; Gavin O'Connor[2]; Simon Cowen[2]; Sarah Williams[1]; *[1]Durham University, Durham, United Kingdom; [2]LGC Limited, Teddington, United Kingdom*

TP 174 **A Reference Collection of MS/MS Spectra of Bioactive Peptides**; Xiaoyu Yang; Pedatsur Neta; Quan-long Pu; Lisa Kilpatrick; Jeri Roth; Stephen E. Stein; *NIST, Gaithersburg, MD*

TP 175 **Visualization of Peptide-Protein Relationship Networks in Cytoscape**; Luis Mendoza[1]; Ruedi Aebersold[2]; *[1]Institute For Systems Biology, Seattle, WA; [2]Institute for Molecular Systems Biology,ETH Zurich, Zurich, Switzerland*

TP 176 **XCMS: A Dynamic Metabolomic Proteomic Conduit**; Paul H Benton[1]; Colin Smith[2]; Sunia Trauger[1]; Gary Siuzdak[1]; *[1]Scripps, La Jolla, CA; [2]UCSF, San Francisco, CA*

TP 177 **Redundant Data Storage and Data Processing Computer Hardware Solution for Mass Spectrometry Laboratories on a Budget**; James West; Weiwei Tong; Yang Su; Catherine Costello; Mark McComb; *Boston University, Boston, MA*

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TP 178 **Reducing Fragmentation Observed in the MALDI-TOF MS Analysis of Triacylglycerols in Vegetable Oils**; Jack Lay; Jennifer Gidden; Rohana Liyanage; Bill Durham; *Univeristy of Arkansas, Fayetteville, AR*

TP 179 **Software Framework for Versatile Interpretation of Cross-Platform Lipidomics Datasets**; Dominik Schwudke; Ronny Herzog; Vitaly Matiash; Teymuras Kurzchalia; Andrej Shevchenko; *Max Planck Institute CBG, Dresden, Germany*

TP 180 **Phospholipidomics: Characterisation of Phosphatidylethanolamines in Lipid Extracts by Hyphenated Techniques;** Jan Willmann[1]; Manfred Spraul[2]; Herbert Thiele[3]; Dieter Leibfritz[1]; *[1]University of Bremen, Bremen, Germany; [2]Bruker BioSpin GmbH, Rheinstetten/Karlsruhe, Germany; [3]Bruker Daltonik GmbH, Bremen, Germany*

TP 181 **Shotgun Sphingolipidomics: ESI/MS Analysis and Quantitation of Cellular Sphingolipids from Crude Extracts of Biological Samples after Treatment with Lithium Methoxide**; Xianlin Han; Xuntian Jiang; *Washington University School of Medicine, St. Louis, MO*

TP 182 **Data Independent Direct Infusion Tandem Mass Spectrometry (DI2MS2), an Automated Approach to Monitor Quantitative and Qualitative Differences of the Metabolome**; Phillip Sanders; Jian Wang; Jeffrey Dage; Ming-Shang Kuo; *Eli Lilly, Indianapolis, IN*

TP 183 **Accurate and Global Analysis of Phospholipids and Glycerolipids by Orbitrap Mass Spectrometry Combination with High Separation Liquid Chromatography**; Ryo Taguchi; Toshiaki Houjou; Kazutaka Ikeda; Takao Shimizu; *The University of Tokyo, Tokyo, Japan*

TP 184 **Quantification of the Potential Biomarkers Platelet-activating Factors (PAFs) and Lysogpcs by Reversed Phase HPLC-Tandem Mass Spectrometry**; Roland Geyer[1]; Uta Ceglarek[2]; Axel Besa[3]; *[1]Applera Europe B.V., 6343 Rotkreuz, Switzerland; [2]LM, University Hospital Leipzig, 04103 Leipzig, Germany; [3]Applied Biosystems, 64293 Darmstadt, Germany*

TP 185 **Relative Quantitation of Glycerophosphoethanolamine Lipids Using Isotope-Tagged (iTRAQ and mTRAQ) Derivatives**; Karin A. Zemski-Berry[1]; John M. Hevko[2]; Robert C. Murphy[1]; *[1]UCHSC/UCH at Fitzsimons, Aurora, CO; [2]Applied Biosystems, Foster City, CA*

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TP 186 **Characterization of Total and Class-Separated Lipid Extracts**; Jane Zhao[1]; Alina Dindyal-Popescu[1]; Eva Duchoslav[1]; Kim Ekroos[2]; Gun-Britt Forsberg[2]; *[1]Applied Biosystems/MDS Sciex, Concord, Canada; [2]AstraZeneca R&D, Molndal, Sweden*

TP 187 **Application of 2D-HPLC/ESI/MS-MS for the Comprehensive Analysis of Complex Mixtures of Triglycerides**; Dong Zheng[1]; Lan Yang[2]; Jason Evans[1]; *[1]Umass Boston, Boston, MA; [2]Altus Pharmaceuticals Inc., Cambridge, Ma*

TP 188 **Chemical Activation UsingTransition Metal Ions For Promoting Specific Dissociations of Fatty Acids Under Low Collision Energy Conditions and IRMPD;** Carlos Afonso; Ying Xu; Françoise Fournier; Jean-Claude Tabet; *Université Paris 6, Paris, France*

TP 189 ***In vivo* Measurements of Endogenous and Isotopically Labeled Phospholipids by Tandem Mass Spectrometry**; Sebastien Gagne; Nathalie Coulombe; Nathalie Methot; Kevin Bateman; *Merck Frosst Canada & Co, Kirkland, Canada*

TP 190 **Positional Analysis of Trigylcerides using Collisional-induced Decomposition in an Ion Trap: Defining the Calibration Plots of ABA/AAB-type Positional Isomer Systems**; Robert Gakwaya; Melissa Liriano; Elizabeth, J Collins; Jason Evans; *University of Massachusetts Boston, Boston, MA*

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TP 191 **Characterization of Oligosaccharides using Infrared Multiphoton Dissociation and an IR-Active Boronic Acid Derivatization Reagent**; Michael Pikulski; Lisa Vasicek; Jennifer Brodbelt; *The University of Texas, Austin, TX*

TP 192 **Differentiation of Li-coordinated Disaccharide Isomers by Wavelength-dependent CO_2 Laser Photo-fragmentation and Fourier Transform Ion Cyclotron Mass Spectrometry**; Sarah Stefan; John Eyler; *University of Florida, Gainesville, FL*

TP 193 **Isomeric Differentiation of N-Glycan Structures by Laser-Induced Photofragmentation inside an Ion-Trap Mass Spectrometer**; Arugadoss Devakumar; Yahia Mechref; Pilsoo Kang; Milos V Novotny; James P Reilly; *Indiana University, Bloomington, IN*

TP 194 **Electron Detachment Dissociation of Neutral and Sialylated Oligosaccharides**; Julie T. Adamson; Kristina Håkansson; *University of Michigan, Ann Arbor, MI*

TP 195 **Characterization of Post-Translational Modifications Including Carbohydrates of a Monoclonal Antibody via HPAEC-PAD, NR-LC-MS/MS, Limited Proteolysis and Peptide Mapping**; Melissa Zolodz; John C. Le; Scott Buckel; *Xencor, Monrovia, CA*

TP 196 **Electron Capture/Detachment Dissociation and Collisionally Activated Dissociation Provide Complementary Structural Information of Permethylated and Native Oligosaccharides**; Cheng Zhao; Bo Xie; Jason Cournoyer; Shiu-Yung Chan; Joseph Zaia; Catherine Costello; Peter O'Connor; *Boston University, Boston, MA*

TP 197 **Ionic Liquid Matrix for MALDI-TOF/TOF-MS Analysis of Keratan Sulfate Oligosaccharides**; Yuntao Zhang[1]; Abigail H Conrad[1]; Yutaka Kariya[2]; Kiyoshi uzuki[2]; Gary W Conrad[1]; *[1]Kansas State University, Manhattan, KS; [2]Seikagaku Corporation, Higashiyamato-shi, Japan*

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TP 198 **Atmospheric Pressure Photoionization Mass Spectrometry of Permethylated Oligosaccharides**; Aïcha Bagag[1]; Alexandre Giuliani[2]; Olivier Laprévote[1]; *[1]Laboratoire de Spectrométrie de masse, ICSN-CNRS, Gif sur Yvette , FR; [2]Cepia, INRA, Nantes cedex 3, FR*

TP 199 **Differentiation of Linkage Isomers and Anomers of Disaccharides by Anion Attachment with Post-Source Decay in MALDI-rTOF**; Bing Guan; Richard B. Cole; *University of New Orleans, New Orleans, LA*

TP 200 **Differential EI Ion Fragmentation Pathways for Peracetylated C-Glycoside Ketals**; Anthony Adeuya[1]; Frank Momany[2]; Neil P. Price[1]; *[1]USDA-ARS-NCAUR,Bioproducts & Biocatalysis Research, Peoria, IL; [2]USDA-ARS-NCAUR, Plant Polymer Research, Peoria, IL*

TP 201 **High Performance Structural Analyses of Glycopeptides by Low-Energy CID using MALDI-QIT-TOF Mass Spectrometer**; Sadanori Sekiya; Koichi Tanaka; *Shimadzu Corporation, Kyoto, Japan*

TP 202 **Sensitive Detection of Oligosaccharides by LDI/TOF using Silica Modified Stainless-Steel Plate**; Joeng Heon Lee[2]; Mi Young Ha[2]; Yangsun Kim[1]; *[1]Hudson surface Technology, Newark, NJ; [2]ASTA, Suwon, Korea*

TP 203 **A Computational Approach to Glycan Isoform Characterization Using MALDI-TOF-TOF Mass Spectrometry**; Quanhu Sheng[1]; Yehia Mechref[1]; Pilsoo Kang[1]; Milos V Novotny[1]; Yixue Li[2]; Rong Zeng[2]; Haixu Tang[1]; *[1]Indiana University, Bloomington, IN; [2]Shanghai Institutes for Biological Sciences, Shanghai, China*

TP 204 **Analysis of Oligosaccharides by Capillary Anion-Exchange Chromatography Using Pulsed Amperometric Detection and On-line ESI Ion-Trap Mass Spectrometry**; C. Bruggink[1]; C.A.M. Koeleman[2]; V. Barreto[3]; Y. Lui[3]; C. Pohl[3]; A. Ingendoh[4]; M. Wuhrer[2]; C.H. Hokke[2]; A.M. Deelder[2]; *[1]Dionex Benelux, Amsterdam, The Netherlands; [2]Leiden University Medical Center, Leiden, The Netherkands; [3]Dionex Corp., Sunnyvale, CA; [4]Bruker Daltonics, Bremen, Germany*

TP 205 **Theoretical Study on Fragmentation Mechanisms of Positive and Negative Ions of Oligosaccharides**; Takae Takeuchi[1]; Ayami Nakao[1]; Michiko Tajiri[3]; Yoshinao Wada[4]; *[1]Nara Women's University, Nara, Japan; [2]AIST, Ikeda, Japan; [3]JST, Izumi, Japan; [4]Osaka MCHRI, Izumi, Japan*

TP 206 **Structural Analysis of Underivatized Sulfated Glycans using IR-MALDI-QIT-TOF-MS**; Katsutoshi Takahashi[1]; Toshikazu Minamisawa[2]; *[1]AIST, Tokyo, Japan; [2]Seikagaku Corporation, Higashiyamato, Japan*

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TP 255 **Rapid Analysis of Pharmaceuticals and their Metabolites with Atmospheric Pressure Infrared MALDI Mass Spectrometry**; Bindesh Shrestha; Yue Li; Akos Vertes; *George Washington University, Washington, DC*

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TP 261 **Identification of the Impurities of Budesonide Using Small Particle Liquid Chromatography and Q-Tof Mass Spectrometry**; Warren Potts III; Michael Jones; Robert Plumb; *Waters Corporation, Milford, MA*

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TP 263 **Characterization of a Major Degradation Product of Phenylephrine in Pharmaceutical Formulations against Common Cold by LC/MS/MS and Tandem FTICR-MS Analysis**; Li-kang Zhang[1]; Jesse Wong[1]; Leonard Wiseman[2]; Shamim Al-Mamoon[2]; Thomas Cooper[2]; Tze-Ming Chan[1]; Birendra Pramanik[1]; *[1]Schering-Plough Research Inst., Kenilworth, NJ; [2]Schering-Plough HealthCare Products, Memphis, TN*

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TP 268 **Shotgun Proteomic Profiling of Histone Isoforms in Chronic Lymphocytic Leukemia by Use of Chemical Derivatization**; Mitchell Meade; Michael A Freitas; Mark R Parthun; David M Lucas; Amy R Knapp; Amy R Knapp; John C Byrd; *Ohio State University, Columbus, OH*

TP 269 **Unambiguous Determination of Isobaric Modificaitons by LC-MS and High Mass Accuracy**; Lanhao Yang[1]; Shengjiang Tu[1]; Chen Ren[2]; Chun-Lin Lia[3]; Ming-Daw Tsai[3]; Michael A. Freitas[4]; *[1]Department of Chemistry; [2]College of Pharmacy and CBO; [3]Genomics Center, Academia Sinica ,Taipei, Taiwan; [4]Human Cancer Genetics, The Ohio State University, Columbus, OH*

TP 270 **High Resolution Mass Spectrometry Study of Chemical and Environmental Stimuli on the Post Translational State of Histone H4**; C. Logan Mackay[1]; Stefan Weidt[1]; Bernard Ramsahoye[2]; Nick Gilbert[2]; Ted Hupp[2]; Pat Langridge-Smith[1]; R. Larry Hayward[2]; *[1]University of Edinburgh, Edinburgh, Scotland; [2]Edinburgh Cancer Centre, Edinburgh, Scotland*

TP 271 **Large Scale Deamidation Detection and Quantification in Aged Lens Tissues**; Surendra Dasari; Phillip A. Wilmarth; D. Leif Rustvold; Ashok P. Reddy; Srinivasa R. Nagalla; Larry L. David; *School of Medicine, Oregon Health & Science Univ, Portland, OR*

TP 272 **Protein Digestion by Endoproteinase AspN for Improved Localization of Protein Modifications by Peptide End-specific Marker Ions**; Dominic Winter; Wolf D. Lehmann; *German Cancer Research Center, Heidelberg, Germany*

TP 273 **Screening and Sequencing of Glycated Proteins by Neutral Loss Scan LC/MS/MS on Q-Tof Type Mass Spectrometers**; Himanshu Gadgil; Pavel Bondarenko; Michael Treuheit ; Da Ren; *Amgen, Thousand Oaks, CA*

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TP 275 **Mining Shotgun Proteomic Data for the Role of Post-Translational Modifications in the Adaptive Response of *Shewanella oneidensis* to Chromate Exposure**; Melissa Thompson[1]; Dorothea Thompson[3]; Robert Hettich[2]; *[1]University of Tennessee-Knoxville, Knoxville, TN; [2]Oak Ridge National Laboratory, Oak Ridge, TN; [3]Purdue University, West Lafayette, IN*

TP 276 **Characterization of γ-Carboxyglutamate-Containing Peptides using CAD MS-MS**; Kevin Van Cott; Anna Oommen; *UNL Biological Process Development Facility, Lincoln, NE*

TP 277 **Analysis of Glycopeptides Using ECD Combined with TOF Mass Spectrometer**; Naomi Manri[1]; Kisaburo Deguchi[2]; Yuki Ito[2]; Takashi Baba[1]; Atsumu Hirabayashi[1]; Hiroyuki Satake[1]; Toshiyuki Yokosuka[1]; *[1]Hitachi, Ltd., Kokubunji, Japan; [2]Hokkaido university, Sapporo, Japan*

TP 278 **A New LC-MS approach Combining CID, ETD, and CID of Charge-Reduced Species for Trace-level Characterization of Proteins with Post-Translational Modifications**; Shiaw-lin Wu[1]; Andreas F.R. Hühmer[2]; Zhiqi Hao[2]; Barry L. Karger[1]; *[1]Northeastern University, Boston, MA; [2]Thero Fisher Scientific, San Jose, CA*

TP 279 **High- Throughput Mapping of Ubiquitination Sites on Proteins Using Targeted Mass Spectrometric Approach**; Sahana Mollah[1]; David Arnott[2]; Qui Phung[2]; Ingrid Wertz[2]; Vishva Dixit[2]; Nobuhiko Kayagaki[2]; Jennie Lill[2]; *[1]Applied Biosystems, Foster City, CA; [2]Genentech, South San Francisco, CA*

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TP 280 **Analysis of Human Histone Proteins Following Exposure to Diepoxybutane**; Min-joon Han; Ryan Svoboda; Emine C. Koc; Hasan Koc; *Pennsylvania State University, University Park, PA*

TP 281 **Enrichment and Analysis of Non-Enzymatically Glycated Peptides: Boronate Affinity Chromatography Coupled with Electron Transfer Dissociation Mass Spectrometry**; Qibin Zhang[1]; Thomas O. Metz[1]; Ning Tang[2]; Jonathan W. C. Brock[3]; Heather M. Mottaz[1]; Richard D. Smith[1]; *[1]Pacific Northwest National Laboratory, Richland, WA; [2]Agilent Technologies, Santa Clara, CA; [3]University of South Carolina, Columbia, SC*

TP 282 **O-Linked N-acetylglucosamine (O-GlcNAc) Post-Translational Modification Analysis Using High Energy CID on a Tandem TOF/TOF Mass Spectrometer with Curved Field Reflectron**; Dwella Moton Nelson; Zihao Wang; Kaoru Sakabe; Gerald W. Hart; Robert J. Cotter; *Johns Hopkins University School of Medicine, Baltimore, MD*

TP 283 **Characterization of N-Linked Glycopeptides with Ion Trap MS using ETD and CID**; Manfred Wuhrer[1]; M. Isabel Catalina[1]; Carolien A. M. Koeleman[1]; André M. Deelder[1]; Markus Lubeck[2]; Carsten Baessmann[2]; *[1]Leiden University Medical Center, Leiden, The Netherlands; [2]Bruker Daltonik GmbH, Bremen, Germany*

TP 284 **Collision Induced Dissociation-based Characterization of the Antimicrobial Peptide-Nucleotide Microcin C7-C51 by Electrospray-ionization/Desorption Mass Spectrometry**; Vanessa Petit[1]; Severine Zirah[1]; Sylvie Rebuffat[1]; Jean-Claude Tabet[2]; *[1]Museum National d'Histoire Naturelle UMR5154 CNRS, Paris, France; [2]Université Pierre et Marie Curie UMR7613 CNRS, Paris , France*

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TP 286 **Characterizing Neuronal Cells in Microfluidic Devices using Mass Spectrometric Imaging**; Kyubong Jo; Michael Heien; Ming Zhong; Elena Romanova; Jonathan Sweedler; *University of Illinois Urbana Champaign, Urbana, IL*

TP 287 **Protein Profiling at the Tumour:Liver Margin in Colorectal Liver Metastasis using MALDI-Mass Spectrometry Imaging**; Marie-Claude Djidja[1]; Vikki Carolan[1]; Ali Majeed[2]; David Mangnall[2]; Nigel Bird[2]; Malcolm Clench[1]; *[1]Sheffield Hallam University, Sheffield, United Kingdom; [2]Royal Hallamshire Hospital, Sheffield, United Kingdom*

TP 288 **Correlation of Drug Distribution and Proteome Response in Tissue by Imaging MALDI Mass Spectrometry**; Sara L. Frappier; Sheerin Khatib-Shahidi; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*

TP 289 **Imaging Mass Spectrometry for the Investigation of Molecular Events Involving Lithium Protection Against Radiation**; Sheerin Khatib-Shahidi; Dinesh Thotala; Eugenia M. Yazlovitskaya; Dennis E. Hallahan; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*

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TP 291 **Association of L-MALDI TOF Proteomics with Apoptosis in PC3 Induced mice Tumor**; Doris Terry; Rakesh Sharma; *Florida State University, Tallahassee, FL*

TP 292 **MALDI Tissue Profiling of Integral Membrane Proteins**; Angus C Grey; Danielle B Thibault; Kevin L Schey; *Medical University of South Carolina, Charleston , SC*

TP 293 **Monitoring Mouse Prostate Development by Profiling and Imaging Mass Spectrometry**; Pierre Chaurand[1]; Mohammed A. Rahman[1]; Tamela Hunt[1]; James A. Mobley[2]; Susan Kasper[1]; Richard M. Caprioli[1]; *[1]Vanderbilt University, Nashville, TN; [2]University of Alabama in Birmingham, Birmingham, AL*

TP 294 **High Resolution MALDI MS Profiling and Imaging of Neuronal Tissues for Differential Display of Neuropeptidomes**; Lingjun Li; Stephanie S. DeKeyser; Joshua J. Schmidt; Ruibing Chen; Mingming Ma; *University of Wisconsin, Madison, WI*

TP 295 **Following Temporal Biological Processes using Imaging MALDI MS: Implantation and Early Embryo Growth in Mice**; Kristin E. Burnum; Susanne Tranguch; S.K. Dey; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*

TP 296 **MALDI Tissue Imaging of Peptides and Proteins in Plants**; Barbara Leinweber[1]; David W. Galbraith[2]; Paul J. Kowalski[3]; Ravishankar Palanivelu[2]; Frans Tax[5]; Serrine S. Lau[4]; *[1]University of Arizona, Tucson, AZ; [2]Plant Sciences, University of Arizona, Tucson, AZ; [3]Bruker Daltonics, Billerica, MA; [4]School of Pharmacy, University of Arizona, Tucson, AZ; [5]Molecular and Cell Biology, University of Arizona, Tucson, AZ*

TP 297 **Imaging Mass Spectrometry of Breast Cancer Tissue : Application and New Developments**; Ron M.A. Heeren[1]; Erika R. Amstalden[1]; Martin Froesch[1]; Ivo Klinkert[1]; Tiffany R. Greenwood[2]; Kristine Glunde[2]; *[1]FOM Inst. Atomic/Molecular Physics, Amsterdam, Netherlands; [2]Johns Hopkins University School of Medicine, Baltimore, MD*

TP 298 **Profiling ALS Mouse Brain Proteome at Cellular Resolution by MALDI MSI**; Satish K Murari[1]; Nathalie YR Agar[2]; Jeffrey N Agar[1]; *[1]Brandeis University, Waltham, MA; [2]Harvard Medical School, Boston, MA*

TP 299 **From Direct Tissue Analysis to Tissue Validation by Mass Spectrometry of Ovary Cancer Biomarkers Hunting**; Jonathan Stauber[1]; Remi Lemaire[1]; Maxence Wisztorski[1]; Sonia Ait Menguellet[1]; Pierre Collinet[3]; Jean Pierre Lucot[3]; Denis Vinatier[3]; Annie Desmons[1]; Michel Deschamps[2]; Gottfried Proess[2]; Ivo Rudlof[2]; Michel Salzet[1]; Isabelle Fournier[1]; *[1]MALDI Imaging Team, FRE CNRS 2933, USTL, villeneuve d'ascq, RANCE; [2]EUROGENTEC, Eurogentec Biologics Department, Liege, belgium; [3]Jeanne de flandres Hospital, Lille, France*

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S. Wei[2]; Qing-Rong Chen[2]; Steffen Durinck[3]; Timothy D. Veenstra[1]; Javed Khan[2]; *[1]SAIC-Frederick, Frederick, MD; [2]National Cancer Institute, Bethesda, MD; [3]K. U. Leuven, Leuven, Belgium*

TP 301 **Effect of TNF-alpha on ARPE-19 for Differential Protein Expression**; Eunkyung An; Josheph Lin; Heather Gordish-Dressman; Yetrib Hathout; *Children's National Medical Center, Washington, DC*

TP 302 **Quantitative Plant Proteomics: A Double Standard Study using Difference in Gel Electrophoresis and ^{15}N-labeling Combined with Mass Spectrometry**; Bettina Warscheid[2]; Romano Hebeler[2]; Kai Reidegeld[2]; Paul P. Dijkwel[1]; Marcel J.G. Sturre[1]; Martin Eisenacher[2]; Christian Stephan[2]; Hemut E. Meyer[2]; *[1]University of Groningen, Groningen, The Netherlands; [2]Ruhr-University Bochum, Bochum, Germany*

TP 303 **Quantitation of Rapamycin Effects in Yeast by Shotgun Proteomics**; Marjorie Fournier; Christopher Seidel; Karin Zueckert-Gaudenz; Norman Pavelka; Mihaela Sardiu; Laurence Florens; Michael Washburn; *Stowers Institute for Medical Research, Kansas City, MO*

TP 304 **2-MEGA: An Optimized Protocol for Determining Differential Protein Expression using Guanidination and Isotopic Dimethylation Labeling**; Andy Lo; Chengjie Ji; Liang Li; *University of Alberta, Edmonton, Canada*

TP 305 **Multiplex Quantitative Proteomic Differential Analysis of Treated Macrophage Cells: Combining Label-free Peak Alignment and iTRAQ Labeling for Differential Quantification**; Jeremiah Tipton[1]; Brown Joseph[2]; Dharsee Moyez[3]; Stewart Ian [3]; Ewing Rob[3]; Goodenhow Maureen[2]; Busby Jennifer[1]; *[1]Scripps Florida, Jupiter, FL; [2]University of Florida, Gainesville, FL; [3]Infochromics, Toronto, Ontario, Canada*

TP 306 **Study of Mycobacterial Lipid Mediated Macrophage Response via Double Standards in Quantitative Proteomics**; Wenqing Shui[1]; Sarah Gilmore[1]; Jun Liu[3]; Jay Keasling[2]; Carolyn Bertozzi[1]; *[1]Department of Chemistry, UC Berkeley, Berkeley, CA; [2]Department of Chemical Engineering, UC Berkeley, Berkeley, CA; [3]Bayer HealthCare LLC, Berkeley, CA*

TP 307 **Improving Peptide Identification through Complementary Approaches: Using SILAC Labeling Compared to Complementary Fragmentation Techniques**; Michael L. Nielsen[1]; Mikail M. Savitski[2]; Lyris F. de Godoy[1]; Jesper V. Olsen[1]; Roman A. Zubarev[2]; Matthias Mann[1]; *[1]Max-Planck-Institute for Biochemistry, Martinsried (near Munich), Germany; [2]Biological and Medical Mass Spectrometry, Uppsala, Sweden*

TP 308 **ANIBAL – ANIline-Benzoic Acid Labeling: Universal, Stable-Isotope Based Quantitative Proteomics Targeting Amino and Carboxylic Groups of Intact Proteins**; Alexandre Panchaud[1]; Jenny Hansson[2]; Michael Affolter[2]; Rachid Bel Rhlid[2]; Philippe Moreillon[1]; Martin Kussmann[2]; *[1]Faculty of Biology and Medicine, Univ. of Lausanne, Lausanne, Switzerland; [2]Nestle Research Center, Lausanne, Switzerland*

TP 309 **Gene Function Analysis in Drosophila by RNAi-SILAC-Based Quantitative Proteomics**; Tiziana Bonaldi[1]; Jürgen Cox[1]; Tobias Straub[2]; Chanchal Kumar[1]; Peter Becker[2]; Matthias Mann[1]; *[1]Max Planck Institute of Biochemistry, Munich, Germany; [2]Adolf Butenandt-Institute, LMU, Munich, Germany*

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TP 310 **Isotope-Free Relative Quantification for Much Improved Dynamic Range**; John M Asara[1]; Heather R Christofk[1]; Lisa M Freimark[1]; Atsuo Sasaki[1]; Lewis C Cantley[1]; *[1]Beth Israel Deaconess Medical Center, Boston, MA; [2]Harvard Medical School, Boston, MA*

TP 311 **A Label-Free Quantitation Method for Ion-Trap/High-Resolution Hybrid Instruments**; Shenheng Guan[1]; Juan Oses-Prieto[1]; Feixia Chu[1]; Yingying Huang[2]; David A. Maltby[1]; Alma L. Burlingame[1]; *[1]University of California, San Francisco, CA; [2]ThermoFisher, San Jose, CA*

TP 312 **Proteomics Studies of Axonal Transport in Motor Neurons**; Zhenyu Huang; Anna-Lena Strom; Jianjun Zhai; Renee Kilty; Haining Zhu; *University of Kentucky, Lexington, KY*

TP 313 **Quantitative Proteomic Analysis of Fanconi Anemia Complementation Type C Deficient MEFs in Response to Oxidative Condition Using Label-Free LC/MS Method**; Mu Wang; *Indiana University, Indianapolis, IN*

TP 314 **Nano-LC, dual channel (Cy3, Cy5) Laser Induced Fluorescence Detector and nanoESI-hQh-FT-ICR-MS for Quantitative Proteomics**; Caroline Tokarski[1]; Jocelyne Tahar[2]; Christian Rolando[1]; *[1]Univ. des Science/Tech de Lille, Villeneuve d'Ascq, France; [2]Picometrics, Toulouse, France*

TP 315 **Large Scale Proteome and PTM Analysis of Arabidopsis by LTQ-Orbitrap MS; Comparison of Cell Lysate and the Plastid Organelle**; Boris Zybailov; Qi Sun; Giulia Friso; Verenice Ramirez-Rodriguez; Heidi Rutschow; Klaas van Wijk; *Cornell University, Ithaca, NY*

TP 316 **Quantitative Profiling of Protein Phosphorylation by Label-Free LC/MS**; Chia-Feng Tsai[1]; Hsin-Hung Huang[2]; Yet-Ran Chen[2]; Yu-Ju Chen[2]; *[1]National Taiwan Normal University, Taipei, Taiwan; [2]Institute of Chemistry, Academia Sinica, Taipei, Taiwan*

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TP 317 **Extracting more Information from Shotgun Proteomics Data Sets by Learning Peptide Detectability**; Randy J. Arnold; Pedro Alves; David E. Clemmer; Milos V. Novotny; James P. Reilly; Haixu Tang; Predrag Radivojac; *Indiana University, Bloomington, IN*

TP 318 **Plasma Proteomics of Colon Cancer Patients - Individual Regulation of Protein Isoforms Identified by the ICPL TRIPLEX Technology**; Eva-Maria Keidel[1]; Achim Brunner[1]; Thomas M. Halder[2]; Detlev Suckau[3]; Silke Martin[4]; Josef Kellermann[1]; Friedrich Lottspeich[1]; *[1]MPI of Biochemistry, Martinsried, Germany; [2]Toplab GmbH, Martinsried, Germany; [3]Bruker Daltonik GmbH, Bremen, Germany; [4]Blood Donor Centre Bavarian Red Cross, Munich, Germany*

TP 319 **Analysis of Leukocyte Extract from the American Alligator (*Alligator mississippiensis*) using Gel Electrophoresis and Nano Liquid Chromatography with Mass Spectrometry**; Lancia N.F. Darville[1]; Mark E. Merchant[2]; Kermit K. Murray[1]; *[1]Louisiana State University, Baton Rouge, LA; [2]McNeese State University, Lake Charles, LA*

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TP 320 **Rapid Simultaneous Identification and Relative Quantitation of Proteins Separated by Gel Electrophoresis**; Valerie Cavett; Jeremiah D. Tipton; Scott A. Busby; Jennifer Caldwell Busby; *The Scripps Research Institute, Scripps Florida, Jupiter, FL*

TP 321 **Variations of the *Arabidopsis thaliana* Mitochondrial Proteome assessed by Chip-Based Nano LC and Q-TOF Mass Spectrometry and DIGE;** Nicolas L Taylor[1]; Chun Pong Lee[1]; Thomas Hennessy[2]; Joshua L Heazlewood[1]; A. Harvey Millar[1]; *[1]ARC Centre of Excellence in Plant Energy Biology, Perth, Australia; [2]Agilent Technolgies, Melbourne, Australia*

TP 322 **Comprehensive Expression Profiling and Trace-level Identification of Unlabeled Peptides Ions in 2DLC-MS Proteomics Experiments using Integrated Detection and Clustering Software**; Eric Bonneil[1]; Gagandeep Jaitly[1]; Navdeep Jaitly[2]; Christelle Pomies[1]; Pierre Thibault[1]; *[1]IRIC-Universite de montreal, Montreal, Canada; [2]Pacific Northwest National Laboratory, Richland, WA*

TP 323 **Rapid and Novel Method for Differential Proteomic Data Quality Evaluation**; Jiri Adamec[1]; Catherine P. Riley[2]; Sulma I. Mohammed[2]; Charles Buck[1]; *[1]Bidley Bioscience Center - Purdue University, West Lafayette, IN; [2]Purdue University, West Lafayette, IN*

TP 324 **Identification and Quantification of Unknown, Spiked Proteins within a Highly Complex Protein Mixture by using the ICPL TRIPLEX Technology**; Thomas M. Halder[1]; Conny Ciosto[2]; Michael Kersten[1]; Dominik Dosch[2]; Eva-Maria Keidel[2]; Monika Zobawa[2]; Achim Brunner[2]; Josef Kellermann[2]; Friedrich Lottspeich[2]; *[1]TopLab GmbH, Martinsried D-82152, Germany; [2]Max-Planck-Institute for Biochemistry, Martinsried D-82152, Germany*

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TP 325 **Gas-phase Structures of Large Human Transthyretin Aggregates: Evidence from Ion Mobility Mass Spectrometry**; Suk-Joon Hyung; Brandon T. Ruotolo; Carol V. Robinson; *Department of Chemistry, University of Cambridge, Cambridge, United Kingdom*

TP 326 **H/D Exchange Mass Spectrometric Studies of p38 MAP Kinase With Inhibitor SB203580**; Susan L. Chen[1]; Kyle Asmus[2]; Melissa Brock[2]; Sheng Li[2]; Virgil L. Woods, Jr.[2]; Roland S. Annan[1]; *[1]GlaxoSmithKline, King of Prussia, PA; [2]University of California, San Diego, La Jolla, CA*

TP 327 **Conformational Changes and Chemical Reactivity of the Ribosome: An Application of Limited Proteolysis and Matrix-assisted Laser Desorption/Ionization Mass Spectrometry**; Daisy-Malloy Hamburg[1]; MooJin Suh[2]; Patrick A. Limbach[1]; *[1]University of Cincinnati, Cincinnati, OH; [2]Cornell Weil College Medicine, New York, NY*

TP 328 **Cap-Free Structure of eIF4E Suggests a Basis for Conformational Regulation by its Ligands**; Nadeem Siddiqui[1]; Laurent Volpon[1]; Michael J Osborne[1]; Ivan Topisirovic[1]; Mike Aguiar[2]; Katherine LB Borden[1]; Bernard F Gibbs[2]; *[1]Dept. of Pathology and Cell Biology, Montreal, Canada; [2]Sheldon Biotechnology Center, McGill University, Montreal, Canada*

TP 329 **Identification of Coactivator Binding Epitopes on Nuclear Receptor Heterodimer Complexes with High Resolution Hydrogen Deuterium Exchange Mass Spectrometry**; Scott A. Busby; Michael J. Chalmers; Bruce D. Pascal; Mark R. Southern; Patrick R. Griffin; *Scripps Florida, Jupiter, FL*

TP 330 **Exploring Protein-Lipid Interaction by Chemical Cross-linking and Mass Spectrometry**; Bill Huang; Hee-Yong Kim; *NIAAA/NIH, Rockville, MD*

TP 331 **Combining HDX-MS with Molecular Simulations for Drug Discovery**; David Schriemer[1]; Jack Tuszynski[2]; *[1]University of Calgary, Calgary, Canada; [2]University of Alberta, Edmonton, Canada*

TP 332 **Characterizing Denaturation Products of 8 MegaDalton Ribonucleoprotein Vault Complexes Using ESI-IMS**; Shirley H. Lomeli; Catherine S. Kaddis; A. Jimmy Ytterberg; Leonard H. Rome; Joseph A. Loo; *UCLA, Los Angeles, CA*

TP 333 **The Binding of Human Telomeryic Protein TRF2 to DNA as Explored by High Resolution PLIMSTEX and Novel Kinetic Modeling;** Justin Sperry[1]; Don L. Rempel[1]; Xiangguo Shi[2]; Yoshifumi Nishimura[3]; Satoko Akashi[3]; Michael L. Gross[1]; *[1]Washington University in St. Louis, Saint Louis, MO; [2]Harvard University, Cambridge, MA; [3]Yokohama City University, Tsurumi-ku, Yokohama, Japan*

TP 334 **HXMS Reveals Conformational and Dynamic Changes Associated with Activation of Lymphocytic Cell Kinase by the Viral Tip Protein**; David D. Weis[1]; Lori A. Emert-Sedlak[2]; Thomas E. Smithgall[2]; John R. Engen[3]; *[1]University of New Mexico, Albuquerque, NM; [2]University of Pittsburgh, Pittsburgh, PA; [3]The Barnett Institute, Northeastern University, Boston, MA*

TP 335 **ESI MS Study of Pepsin Inactivation: Implications of Small-scale Protein Conformational Changes for Substrate Binding and Enzymatic Activity**; Agya K. Frimpong; Igor A. Kaltashov; *University of Massachusetts, Amherst, MA*

TP 336 **Analysis of the pH-Dependent Pore Formation of the Protective Antigen of Anthrax by Protein Oxidative Surface Mapping**; Joshua S. Sharp[1]; Jeffrey F. Kuhn[2]; Kenneth B. Tomer[1]; *[1]National Institute of Environmental Health Science, RTP, NC; [2]Varian, Inc. Scientific Instruments, Cary, NC*

TP 337 **Insights into How the "DNA Baton" is Passed in the BER Pathway, Mapping APE-1 and DNA Polymerase β contacts**; Eizadora Yu; Sara Gaucher; Carmen Pancerella; Ken Sale; Malin Young; Masood Hadi; *Sandia National Laboratories, Livermore, CA*

TP 338 **Separation of up to 100 Conformers of Large Protein Ions by FAIMS/MS and Approach to their Structural Attribution**; Alexandre A. Shvartsburg[1]; Sergei Noskov[2]; Tadeusz Bryskiewicz[3]; Randall Purves[3]; Richard D Smith[1]; *[1]USDoE PNNL, Richland, WA; [2]University of Calgary, Calgary, Canada; [3]Thermo Electron, Ottawa, Canada*

TP 339 **Structural Studies of Human Bile Acid CoA:Amino Acid N-Acyltransferase (hBAT) Using Hydrogen/Deuterium Exchange**; Erin M Shonsey; Matthew B Renfrow; Sebyung Kang; Stephen Barnes; *University of Alabama at Birmingham, Birmingham, AL*

TP 340 **Domain-Specific Thermodynamic Analysis of Large Multi-Domain Proteins Using SUPREX**; Liangjie Tang[1]; Konstantin Kazarian[2]; John C. Williams[2]; Michael C. Fitzgerald[1]; *[1]Duke University, Durham, NC; [2]Thomas Jefferson University, Philadelphia, PA*

TP 341 **Systematic Fragmentation Analysis of Peptide Complexes Generated by Collision-induced Dissociative Crosslinking Reagents: Implications for**

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Mass Spectrometry-based Protein Structural Studies; Erik J. Soderblom; Michael B. Goshe; *North Carolina State University, Raleigh, NC*

TP 342 **Deuterium Labeling in Ubiquitin during Hydrogen/Deuterium Exchange (HDX) and ESI-MS/MS: Scrambled or Sunny-side Up?**; Peter L Ferguson; Lars Konermann; *University of Western Ontario, London, Canada*

TP 343 **Controlled Oxidative Chemical Footprinting of Ribonuclease-S-Protein:S-Peptide Complex by Laser Flash Photolysis of Hydrogen Peroxide;** Brian C. Gau; Michael L. Gross; *Washington University, St. Louis, MO*

TP 344 **Hydrogen-deuterium Exchange Provides Evidence for Presence of Mobile Water Molecules at the MHC-Peptide Binding Interface**; Sachin Patil; Lilly M. Saleena; Hermann von Grafenstein; *University of Toledo, Toledo, OH*

TP 345 **Testing the Efficiency and Specificity of Pepsins from the Antarctic Fish *Trematomus bernacchii* for HDX-MS Experiments**; Sebastien Brier[1]; Yan Wu[2]; Robert Taylor[2]; Vincenzo Carginale[3]; Antonio Capasso[3]; Clemente Capasso[3]; John R Engen[1]; *[1]The Barnett Institute, Boston, MA; [2]Department of Chemistry, University of New Mexico, Albuquerque, NM; [3]CNR Institute of Protein Biochemistry, Naples, Italy*

TP 346 **Probing Tertiary Structure of Bacterial Collagen Binding Domain (CBD) and Catalytic Domain in a Multi-domain Protein by Limited Proteolysis MALDI-TOF-MS**; Rohana Liyanage[1]; P. S. T. Leena[1]; C. R. Sides[1]; Nagarjuna Devarapalli[1]; Jennifer Gidden[1]; Philominathan O. Matsushita[2]; J. J. Sakon[1]; Jackson O. Lay, Jr[1]; *[1]University of Arkansas, Fayetteville, AR; [2]Kagawa Medical University, Miki-cho, Kagawa, Japan*

TP 347 **Visualizing Actin in the Rigor State of the Acto-Myosin Motor by using Structural Mass Spectrometry**; J.K. Amisha Kamal[1]; Sabrina Benchaar[2]; Emil Reisler[2]; Mark chance[1]; *[1]Case Western Reserve University School of Medicine, Cleveland, OH; [2]University of California Los Angeles, Los Angeles, CA*

TP 348 **MS characterization of Serpin and its Complex Structures**; Xiaojing Zheng; Yuko Tsutsui; Patrick L. Wintrode; Mark R. Chance; *Case Western Reserve University, Cleveland, OH*

TP 349 **Differentiation of Biological Ion Shapes Employing Nanoelectrospray and Ion Mobility Mass Spectrometry**; Mark Allen[1]; John Shockcor[2]; Rob Plumb[2]; Alan Miller[2]; Chris Hughes[2]; Mark Baumert[1]; Jack Henion[1]; *[1]Advion BioSciences, Ithaca, NY; [2]Waters, Milford, MA*

PROTEINS: GENERAL
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TP 350 **Proteomic Analysis of Thiol-Containing Proteins on the Platelet Surface**; Susan T. Weintraub; Xiuhua Sun; Nagaraj Manickam; Christopher A. Carroll; Kevin W. Hakala; David W. Essex; *University of Texas HSC, San Antonio, TX*

TP 351 **Separation and Partial Characterization of Dipeptidyl Peptidase IV Isoforms by Free Flow Electrophoresis and MALDI-TOF MS;** Patrick O'Mullan; David Craft; Craig Gelfand; *BD Diagnostics, Franklin Lakes, NJ*

TP 352 **Gluten Determination in Beer using Mass Spectrometric Techniques**; Dorcas Weber; Terry Cyr; Benjamin P.-Y. Lau; Samuel Benrejeb-Godefroy; *Health Canada, Ottawa, Canada*

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TP 353 **An Aptly Positioned Azido Group in a Protein Cross-linker for Facile Mapping of Amino Acids in Close Proximity**; Piotr Kasper; Jaap Willem Back; Maxime Vitale; Alloysius F. Hartog; Winfried Roseboom; Leo J. de Koning; Jan H. van Maarseveen; Anton O. Muijsers; Luitzen de Jong; Chris G. de Koster; *University of Amsterdam, Amsterdam, Netherlands*

TP 354 **Therapeutic Protein Aggregates: Direct Analysis by Chemical Cross-Linking and High-Mass MALDI Mass Spectrometry**; Alexis Nazabal; Ryan Wenzel; *CovalX AG, Zürich, Switzerland*

TP 355 **Cross-Linking and UPLC/MS/MS Analysis of the Tif34/Tif35 Protein Complex**; Amadeu H Iglesias; Fabio C Gozzo; *Brazilian Synchrotron Light Source, Campinas, Brazil*

TP 356 **Copper Binding of the β-2-Microglobulin Oligomers Studied by Metal-Catalyzed Oxidation Reactions and Mass Spectrometry**; Srikanth Rapole; Richard W. Vachet; *University of Massachusetts, Amherst, MA*

TP 357 **Investigating Domain Swapping in the C-terminal Domain of the HIV-1 Capsid Protein using Chemical Cross-linking and Mass Spectrometry**; Lisa M. Jones; Sebyung Kang; Matthew B. Renfrow; Peter E. Prevelige, Jr; *University of Alabama at Birmingham, Birmingham, AL*

TP 358 **Structural Studies of Antigens Associated with the Autoimmune Disease, Sjogren's Syndrome**; Leesa J Deterding; Rachelle Bienstock; Kenneth B Tomer; *NIEHS/NIH/DHHS, RTP, NC*

TP 359 **ABRF-PRG2007: Advanced Quantitative Proteomics Study**; A. M. Falick[1]; M. J. MacCoss[2]; W. S. Lane[3]; K. S. Lilley[4]; B. S. Phinney[5]; N. E. Sherman[6]; S. T. Weintraub[7]; H. E. Witkowska[8]; N. A. Yates[9]; *[1]University of California, HHMI MS Lab, Berkeley, CA; [2]University of Washington, Dept. of Genome Science, Seattle, WA; [3]Harvard University, Cambridge, MA; [4]University of Cambridge, Cambridge, United Kingdom; [5]University of California, Davis, CA; [6]University of Virginia, Charlottesville, VA; [7]University of Texas Health Sciences Center, San Antonio, TX; [8]University of California BRC MS Facility, San Francisco, CA; [9]Merck Research Laboratories, Rahway, NJ*

TP 360 **Analysis of the Arp2/3 Protein Complex using Electron Transfer Dissociation**; Kristie M. Lindsey Rose; Namrata D. Udeshi; Tatyana I. Kotova; Jeffrey Shabanowitz; Dorothy A. Schafer; Donald F. Hunt; *University of Virginia, Charlottesville, VA*

TP 361 **Immunoaffinity-HPLC/MS Analysis of Food Allergens;** Kevin J. Shefcheck; Carmen Westphal; Fenhong Song; John H. Callahan; *USFDA, College Park, MD*

TP 362 **MS2DB: Mining and Identification of Disulfide Bonds in Proteins Utilizing Mass Spectrometric Data**; Ten-yang Yen; Timothy Lee; Rahul Singh; Alexander Chavez; Bruce Macher; *San Francisco State University, San Francisco, CA*

TP 363 **Identification of Disulfide Bridges in *C. Botulinum Neurotoxin* by Mass Spectrometry**; Nemone Muster; Hua Huang; Tai Huynh; Elizabeth Gielow; Curtis Monnig; Marc Verhagen; *Allergan Inc., Irvine, CA*

TP 364 **Deuterium Exchange Mass Spectrometry Studies of GroupIA PLA2 utilizing Novel Methods for Lipid Protein Interactions and Highly Disulfide Bound Proteins**; John Burke[1]; *[1]UCSD, La Jolla, CA; [2]University of California San Diego, La Jolla, CA*

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TP 365 **Glutathione S-Transferase Dynamics by H/D Exchange Mass Spectrometry**; Liming Hou; *University of Washington, Seattle, WA*

TP 366 **Application of I-DIRT Technology for Protein Interaction Studies in *D. melanogaster* Embryos;** Angeline Gradolatto[1]; Yanling Liu[2]; Michael Lehmann[2]; Alan J. Tackett[1]; *[1]University of Arkansas for Medical Sciences, Little Rock, AR; [2]University of Arkansas, Fayetteville, AR*

TP 367 **Biochemical and Mass Spectrometric Analysis of Disulfide Regulation in Redox-active Glutamate Cysteine Ligase (GCL) from *Arabidopsis thaliana***; Leslie M. Hicks; Eric R. Bonner; Rebecca E. Cahoon; Rebecca S. Rivard; Jeanne Sheffield; Joseph M. Jez; *Donald Danforth Plant Science Center, St. Louis, MO*

TP 368 **Identification of PRSS11 Candidate Substrates through Proteomic Analysis**; Lin Liu; Ying Huang; Zhiyong Yang; Wei Liu; Eunice Wang; Carl Flannery; Margot O'Toole; Yongchang Qiu; *Wyeth, Cambridge, MA*

TP 369 **Top Down Protein Sequencing using an Electrospray Chip Coupled to an Ion Mobility / Time-of-Flight Mass Spectrometer**; Therese McKenna[1]; Christopher Hughes[1]; Mark Baumert[2]; Mark Allen[2]; James Langridge[1]; *[1]Waters Corporation, Manchester, United Kingdom; [2]Advion BioSciences, Norwich, United Kingdom*

TP 370 **Bath Gas Pressure Effects on the Charge State Distribution of Disulfide Reduced Proteins**; Brittany Butler; Gary L. Glish; *The University of North Carolina at Chapel Hill, Chapel Hill, NC*

TP 371 **A Novel Mass Defect Labeled Mass-Spectrometry Identifiable Cross-linker**; Lisabeth L. Hoffman; Ryan M. Phillips; George F. Majetich; I. Jonathan Amster; *University of Georgia, Athens, GA*

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TP 372 **Different Proteomic Approaches to Analysis of *Francisella tularensis* Bacterial Glycoproteins**; Lenka Hernychova[1]; Lucie Balonova[2]; Zuzana Bilkova[2]; Iveta Klouckova[3]; Lucie Markova[1]; Ivona Pavkova[1]; Yehia Mechref[4]; Milos V. Novotny[4]; Jiri Stulik[1]; *[1]University of Defence, Hradec Kralove, Czech Republic; [2]University of Pardubice, Pardubice, Czech Republic; [3]Indiana University, Bloomington, IN; [4]National Center of Glycomics and Glycoproteomics, Bloomington, IN*

TP 373 **O-Linked Protein Glycosylations in Plasma as Biomarkers for Epithelial Ovarian Cancer**; Taufika Islam Williams[1]; Jason S. Sampson[1]; Adam M. Hawkridge[1]; William A. Cliby[2]; David C. Muddiman[1]; *[1]North Carolina State University, Raleigh, NC; [2]Mayo Clinic, Rochester, MN*

TP 374 ***In vivo* Metabolic Labeling and Detection of Specific Glycoprotein Subclasses in Her2/neu Mouse Mammary Tumors**; Brian Agnew[1]; Tamara Nyberg[1]; Courtenay Hart[1]; Rajkumar Lakshmanaswamy[2]; *[1]Molecular Probes / Invitrogen, Eugene, OR; [2]Texas University Health Sciences Center, El Paso, TX*

TP 375 **Determination of Glycosylation Profiles of Major Secreted Proteins of Cancer Cell Lines**; Mathur Rajesh; Lalita A. Shevde; Rajeev S. Samant; Lewis K. Pannell; *Mitchell Cancer Institute, Univ. of South Alabama, Mobile, AL*

TP 376 **Glycan Analysis of Human Podoplanin Using MALDI TOF and MALDI QIT-TOF Mass Spectrometers**; Akihiko Kameyama; Mika Kato Kaneko; Yukinari Kato; Kahori Tachibana; Hiromi Ito; Hisashi Narimatsu; *National Institute of Advanced Industrial Science, Tsukuba, Japan*

TP 377 **Characterization of the FcγRIIIa Carbohydrate Structure using LC-nanoESI-MS/MS with Parallel MS Triggered Fraction Collection and Subsequent Analysis of Glycopeptide Fractions**; Anne Zeck[1]; Gottfried Pohlentz[2]; Tilman Schlothauer[1]; Stefan Seeber[1]; Jasna Peter-Katalinic[2]; Jörg Thomas Regula[1]; *[1]Roche Diagnostics GmbH, Penzberg, Germany; [2]Westfalische-Wilhelms Universitat Munster, Muenster, Germany*

TP 378 **Discovery of Disease Marker by Direct LC-MS/MS Peptide Analysis to Profile Serum N-Glycoproteomes of Patients and Normal Controls**; Shwu-Bin Lin; Wei-Chien Tang; Tin-Yu Lin; Ming-Yang Lai; Ding-Shinn Chen; *National Taiwan University, Taipei, Taiwan, R.O.C.*

TP 379 **Quantitative Analysis of Tumor Proteins in Plasma**; Yuan Tian; Hui Zhang; *Johns Hopkins School of Medicine, Baltimore, MD*

TP 380 **Identification of Cell Surface Markers to Differentiate Endothelial and Fibroblast Cells using Lectin Arrays and LC/ESI/MS-MS**; Jieun Lee[1]; Shama P. Mirza[2]; Daniela N. Didier[2]; Mark Scalf[1]; Andrew S. Greene[2]; Michael Olivier[2]; Lloyd M. Smith[1]; *[1]University of Wisconsin-Madison, Madison, WI; [2]Medical College of Wisconsin, Milwaukee, WI*

TP 381 **The O-GlcNAc Proteome of Human Erythrocyte**; Zihao Wang; Kyoungsook Park; Greald W. Hart; *Johns Hopkins University School of Medicine, Baltimore, MD*

TP 382 **Comprehensive Analysis of Platelet Proteins Focusing on Membrane Glycoproteins and Glycosylation Site Analysis**; Urs Lewandrowski[1]; René Peiman Zahedi[1]; Jan Moebius[1]; Ulrich Walter[2]; Albert Sickmann[1]; *[1]Rudolf-Virchow-Center, University Würzburg, Würzburg, Germany; [2]IZKF, University Würzburg, Würzburg, Germany*

TP 383 **Temporal Variations in the Human Milk Glycoproteome**; John Froehlich; Eric Dodds; Erica McJimpsey; Richard Seipert; Hyun Joo An; Carlito Lebrilla; *UC Davis, Davis, CA*

TP 384 **Glycosylation Site-specific Characterization of a HIV Vaccine Candidate, CON-S gp140ΔCFI, a Glycoprotein with 31 Potential Glycosylation Sites**; Janet Irungu[1]; Eden P. Go[1]; Ying Zhang[1]; Dilusha S. Dalpathado[1]; Hua-Xin Liao[2]; Barton F. Haynes[2]; Heather Desaire[1]; *[1]University of Kansas, Lawrence, KS; [2]Duke University medical center, Durham, NC*

TP 385 **Characterizing the Flagellin Glycoprotein from *Clostridium botulinum*: Identifying the Sites of Glycosylation using Electron Transfer Dissociation**; John F. Kelly[1]; Susan Twine[1]; Susan Logan[1]; James Mullen[1]; Catherine Paul[2]; John Austin[2]; Yingying Huang[3]; *[1]NRC Institute for Biological Sciences, Ottawa, Canada; [2]Bureau of Microbial Hazards, Health Canada, Ottawa, Canada; [3]Thermo Fischer Scientific, San Jose, CA*

TP 386 **Mass Spectrometric Elucidation of N-Glycosylation to the Light Chain of a Crystallizing Cryoglobulin**; Masaki Yamada[1]; Megumi Nakamura[2]; Ryo Hashimoto[3]; Mayumi Mori[3]; Tomohiro Torii[4]; Kazuhiro Ikenaka[4]; Tosifusa Toda[2]; *[1]Life Science Laboratory, Shimadzu Corporation, kyoto, Japan; [2]Tokyo*

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Metropolitan Institute of Gerontology, Tokyo, Japan; [3]Tokyo Metropolitan Geriatric Hospital, Tokyo, Japan; [4]National Institute for Physiological Sciences, Okazaki, Japan

TP 387 **A Structural and Functional Analysis of Glycoproteins with Modified Glycosylation**; Melinda L. Toumi; Eden P. Go; Heather Desaire; *University of Kansas, Lawrence, KS*

TP 388 **Relative Quantitation of Glycopeptides Secreted by a Glioblastoma Cell Line in Response to cAMP**; Jennifer J. Hill; Jean C.Y. Lam; Maria J. Moreno; John F. Kelly; *National Research Council Canada, Ottawa, ON, Canada*

TP 389 **FT-ICR MS Accurate Mass Profiles of IgA1 Hinge Region *O*-Glycosylation Isoforms**; Stephanie B. Wall; Stacy Hall; Bruce A. Julian; Jiri Mestecky; Jan Novak; Matthew B. Renfrow; *University of Alabama at Birmingham, Birmingham, AL*

TP 390 **Glycosylation Profiling of IL-23: Determination of N-Glycosylation Sites and Structure Characterization of the Oligosaccharides by Mass Spectrometry**; Yan-Hui Liu; Brian Beyer; Peter Orth; Richard Ingram; Birendra N. Pramanik; *Schering Plough Research Institute, Kenilworth, NJ*

TP 391 **Dissociation of Core α1,6- and Antenna α1,3-fucosylated Isomers in the MS of Glycopeptides**; Michiko Tajiri[1]; Yoshinao Wada[2]; *[1]CREST, JST, Kawaguchi, Saitama, Japan; [2]Osaka MCHRI, Izumi, Osaka, Japan*

TP 392 **Glycomic Profiling of the NCI-60 Cancer Cell Panel**; John A. Goetz[1]; Yehia Mechref[1]; Milos V. Novotny[1]; *[1]Indiana University Dept. of Chemistry, Bloomington, IN; [2]National Center of Glycomics and Glycoproteomics, Bloomington, IN*

TP 393 **Profiling of Lectin-Enriched Glycoproteins from Healthy Individuals and Stage III Breast Cancer Patients**; Iveta Klouckova[1]; Milan Madera[2]; Benjamin Mann[1]; Yehia Mechref[3]; Milos Novotny[2]; *[1]Indiana University, Bloomington, IN; [2]National Center of Glycomics and Glycoproteomic, Bloomington, Indiana; [3]METACyt Biochemical Analysis Center, Bloomington, IN*

TP 394 **Automated LC-MALDI Analysis of Glycopeptides from Recombinant Human Integrin**; Anja Resemann[1]; Arndt Asperger[1]; Kerstin Seemann[2]; Thomas Eichhorn[2]; Christian Hunzinger[2]; Katrin Sparbier[1]; Lars Vorwerg[1]; Günter Stein[1]; Detlev Suckau[1]; *[1]Bruker Daltonics, Bremen, Germany; [2]Merck KgaA, Darmstadt, Germany*

TP 395 **Identification and Analysis of S-Layer Proteins from Methanosarcina Acetivorans and Methanosarcina mazei**; Deborah Leon-Rossell; Kim Unmi; Yanan Yang; Joseph A. Loo; Robert P. Gunsalus; Rachel Ogorzalek Loo; *UCLA, Los Angeles, CA*

TP 396 **Further LC-MS/MS Characterization of Sites of O-GlcNAc Modification within the C-Terminus of Insulin Receptor Substrate-1 (IRS-1) and Their Biological Relevance**; Lauren E. Ball; Mary N. Berkaw; Katherine A. Robinson; Maria G. Buse; *Medical University of South Carolina, Charleston, SC*

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TP 397 **Studies of Modifications of Cysteine 34 on Human Serum Albumin**; Jianzhong Chen[1]; Xiaoting Tang[1]; Yvonne Carella[2]; Hollie Huff[2]; James E. Bruce[1];

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[1]Washington State University, Pullman, WA; [2]Inverness Medical Innovations, Inc., Louisville, CO

TP 398 **Investigation of Protein Sequence Variants in a Natural Microbial Community by Top-Down Proteomics**; Brian Erickson[1]; Mark Lefsrud[1]; Nathan VerBerkmoes[1]; Steven Singer[2]; Michael Thelen[2]; Jillian Banfield[3]; Robert Hettich[1]; *[1]Oak Ridge National Laboratory, Oak Ridge, TN; [2]Lawerence Livermore Natl. Lab, Livermore, CA; [3]Unversity of California, Berkeley, CA*

TP 399 **Characterization of the Extracellular Domain of Recombinant Human EMMPRIN**; Eric Beil; Yi Tang; Sheng-Jiun Sam Wu; Mark Cunningham; Juliane Mills; Bethany Swencki-Underwood; Alison Rogers; Jennifer F. Nemeth; *Centocor, Inc. a Johnson and Johnson Subsidiary, Radnor, PA*

TP 400 **Oxidation of DNA-Binding Proteins: from Damage to Loss of Function;** Corinne Buré[1]; Nathalie Gillard[1]; Stephane Goffinont[1]; Marie Davidkova[2]; Françoise Culard[1]; Melanie Spotheim-Maurizot[1]; Martine Cadene[1]; *[1]Centre de Biophysique Moleculaire CNRS UPR4301, Orleans, France; [2]Nuclear Physics Institute, Prague, Czech Republic*

TP 401 **Automated Precursor Ion Scan Identification of Protein Cabonylation Sites on a Hybrid Triple Quadrupole Linear Ion Trap Mass Spectrometer**; Shannon M Eliuk; Matthew B Renfrow; Ray Moore; Stephen Barnes; Helen Kim; *University of Alabama at Birmingham, Birmingham, AL*

TP 402 **Identification of 2-Amino Adipic Acid as an Oxidation Product of Lysine by Leukocyte Heme-Peroxidases *in vivo* via LC MS/MS Analysis**; Zhiping Wu; Zeneng Wang; Stanley L. Hazen; *Cleveland Clinic Foundation, Cleveland, OH*

TP 403 **Evaluation of the Effect of Sample Composition and Sample Load on the Mass Spectrometric Analysis of Immunoconjugates**; Alex Lazar; Rajesh Krishnamurthy; *Immunogen, Cambridge, MA*

TP 404 **LC-MS/MS Identification of Redox-dependent Formation of Disulfide Bonds in Recombinant Replication Protein A *in vitro***; Lijie Men; Yinsheng Wang; *University of California, Riverside, Riverside, CA*

TP 405 **Using MALDI-MS to Identify Novel Chromosomal-binding sites for a Chromatin-Organizing Protein**; Heather Lavender; Alan J. Tackett; *University of Arkansas for Medical Sciences, Little Rock, AR*

TP 406 **Identification of Oxidant-Induced Post-translational Modifications of GAPDH in Endothelial Cells using 2D-PAGE and Mass Spectrometry**; Mahadevan Sethuraman; David H. Perlman; Chaomei Shi; Mark E. McComb; Catherine E. Costello; Richard A. Cohen; *Boston University Sch of Medicine, Boston, MA*

TP 407 **Detection and Characterization of Immunoglobulin Light Chain Posttranslational Modifications using LCMS/MS-MS**; Roger Theberge[1]; Yan Jiang[1]; Mark E McComb[1]; Tatiana Prokaeva[2]; Lawreen H Connors[2]; Martha Skinner[2]; David C Seldin[2]; Catherine E Costello[1]; *[1]Boston University School of Medicine, Mass Spectro, Boston, MA; [2]Boston University School of Medicine, Boston, MA*

TP 408 **LC/MS Characterization of Common Chemical Degradation Products of *E. coli* Expressed Human IgG1 Fc**; Da Ren; Jane Dankberg; Yan Zhou; Robert Rosenfeld; Luke Li; Liang-Yu Shih; Pavel V.

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Bondarenko; Richard L. Remmele, Jr; Dingjiang Liu; *Amgen Inc, thousand oaks, CA*

TP 409 **AP180 is Multiply Phosphorylated and Has a Novel Post-Translational Modification: N-Acetylglucosamine Phosphorylation;** Mark E. Graham[1]; George E. Craft[1]; Nicolai Bache[2]; Martin R. Larsen[2]; Phillip J. Robinson[1]; *[1]Children's Medical Research Institute, Westmead, Australia; [2]University of Southern Denmark, Odense, Denmark*

TP 410 **Comprehensive Profiling of Unnatural Amino Acid Containing Protein Mutants**; Ansgar Brock[1]; Shawn Cheng[2]; Peter G. Schultz[2]; *[1]Genomics Institute of Novartis, San Diego, CA; [2]The Scripps Research Institute, San Diego, CA*

TP 411 **Characterizing the α,β-Unsaturated Aldehyde Acrolein's Role in the Covalent Cross-Linking of Proteins and Peptides Using Proteomics**; Lewis C Jackson; Bert C Lynn; *University of Kentucky, Lexington, KY*

TP 412 **LC-FT-MS Determination of Deamidation**; Carol E. Parker[1]; Ryan Danelle[2]; Linhong Jing[1]; Maria E. Warren[1]; Cameron O. Scarlett[1]; Li Zhou[1]; Xian Chen[1]; *[1]University of North Carolina, Chapel Hill, NC; [2]Danell Consulting, Greenville, NC*

TP 413 **Characterization of Immunoconjugates of a Novel Antineoplastic Drug with Herceptin using Nanospray Mass Spectrometry;** John Roboz[1]; Sool Yeon Cho[1]; Stanley C. Bell[2]; Glenn J. Fegley[2]; Jodie L. Duke[2]; Stephen Cosenza[3]; James F. Holland[1]; *[1]Mount Sinai School of Medicine, New York, NY; [2]Onconova Therapeutics Inc., Lawrenceville, NJ; [3]Temple University School of Medicine, Philadelphia, PA*

TP 414 **Characterization of Xenobiotic Modification Products of Haemoglobin by Nano-electrospray Tandem Mass Spectrometry**; Antti Hesso[1]; Jarkko Tornaeus[1]; Vladimir Havlicek[2]; *[1]Finnish Institute of Occupational Health, Helsinki, Finland; [2]Institute of Microbiology, Prague, Czech Republic*

TP 415 **Probing the Conformation and Activity of Trypsin by Amidination Labeling**; Xiaohui Liu; William C. Broshears; James P. Reilly; *Indiana University, Bloomington, IN*

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TP 416 **Rapid Characterization of Variable Regions of Monoclonal Antibodies by Top-Down Mass Spectrometry**; Zhongqi Zhang; Bhavana Shah; *Amgen, Inc., Thousand Oaks, CA*

TP 417 **The Comparison of Biopharmaceutical and Follow-on Protein Drugs Using Extended Range Proteomic Analysis**; Xiaoyang Zheng; Shiaw-lin Wu; Haitao Jiang; Barry L. Karger; William S. Hancock; *Northeastern University, Boston, MA*

TP 418 **Top-down Characterization of Therapeutic Antibody by High Resolution LTQ Orbitrap Mass Spectrometry**; Jennifer Zhang; Viswanatham Katta; *Genentech Inc., South San Francisco, CA*

TP 419 **Structural Characterization of the Extracellular Domain of a Recombinant Human Toll-Like Receptor 3 (TLR3) Protein**; Steven C Pomerantz; Ken Dixon; Juliane Mills; Joe Vennarini; Mark Cunningham; Jennifer F. Nemeth; *Centocor Research and Development, Radnor, PA*

TP 420 **Characterization of Recombinant Proteins by Offgel Electrophoresis Fractionation and LC/MS/MS Techniques**; Patrick D. Perkins; Ning Tang; Christine A. Miller; David M. Horn; Xiang-Dong Li; *Agilent Technologies, Santa Clara, CA*

TP 421 **Identification of Novoseven from Rat Liver Hepatocytes**; Thomas N. Krogh[1]; Torben Seested Johansen[2]; *[1]Protein Science, Novo Nordisk A/S, DK-2760 Måløv, Denmark; [2]Exploratory ADME, Novo Nordisk A/S, DK-2760 Måløv, Denmark*

TP 422 **Microwave-Assisted Enzymatic Digestion for Rapid Identification of Therapeutic Proteins by Peptide Mass Fingerprinting**; Mary Zhu; Viswanatham Katta; *Genentech, Inc., South San Francisco, CA*

TP 423 **"High-Throughput" Antibody Primary Sequence Confirmation via Nano-LC/MS/MS and Various Protein Identification Algorithms**; Peng Pan; Michelle Busch; Xiaoying Jin; Kate Zhang; *Genzyme Corporation, Framingham, MA*

TP 424 **Cysteine Connectivity in IgG2 Subclass Complete Determination of the Disulfide Structures of ABX-EGF**; Theresa Martinez[1]; Amy Guo[1]; Mei Han[1]; Jay Jones[2]; Ron Gillespie[1]; Martin Allen[1]; Yuling Zhang[1]; Alain Balland[1]; *[1]Amgen, Seattle, WA; [2]Seattle Genetics, Seattle, WA*

TP 425 **Impurity Characterization in Recombinant Anthrax Protective Antigen In-Process Pools by LC/MS/MS**; Geoffrey K Yeh; *Vaxgen, South San Francisco, CA*

TP 426 **Long term Stability of Erbitux®, Methionine Oxidation in Stressed and Unstressed Samples**; Jay Charlebois; Tun Liu; Ann Daus; Qinwei Zhou; *ImClone Systems Incorporated, Branchburg, NJ*

TP 427 **Monitoring Modifications to Monoclonal Antibodies in Serum using a Novel Immunoprecipitation Method**; Katherine Lancaster; Viswanatham Katta; *Genentech, South San Francisco, CA*

TP 428 **Antigen Characterization using Mass Spectrometry: A Path to Developing a Better Antibody in the Biopharmaceutical Industry Setting**; Jennifer F. Nemeth; Eric J. Beil; Steven C Pomerantz; *Centocor R&D, Radnor, PA*

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TP 430 **Automated Top-Down and Bottom-Up Sequencing of Monoclonal Antibodies**; Gary A. Schultz[1]; Jason C. Rouse[2]; Joseph E. McClellan[2]; *[1]Advion BioSystems, Ithaca, NY; [2]Wyeth BioPharma, Andover, MA*

TP 431 **Identification and Quantitation of Isomerization and Cleavage in the Aspartate-Aspartate Motif in a Monoclonal Antibody by LC/MS and MALDI-TOF Analysis**; Gang Xiao; Pavel Bondarenko; *Amgen, Thousand Oaks, CA*

TP 432 **Direct Liquid Chromatography-Mass Spectrometry Quantitation of Proteins Expressed using Pooled ORF Expression Technology (POET)**; William K. Gillette; Dominic Esposito; Timothy D. Veenstra; James L. Hartley; *SAIC-Frederick, Frederick, MD*

TP 433 **Identification of Hinge Region Fragmentation in HIC and SEC Column Fractions of an IgG4 Antibody**; Vida Pezeshk; Zhirui Lian; *Eli lilly, Indianapolis, IN*

PROTEOMICS: BIOMARKERS II
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TP 434 **Quantitative Proteome Analysis of an A53T a-Synuclein Drosophila Model of Parkinson's Disease**; Zhiyin Xun; Renã A. Sowell; Thomas C. Kaufman; David E. Clemmer; *Indiana University Bloominton, Bloomington, IN*

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TP 435 **The Mass Spectrometric Detection of Schistosomiasis Infections from an Endemic Region**; Adam Rainczuk[1]; A Thiam[1]; Brian J Ward[1]; Momar Ndao[1]; David Blank[2]; Hugh PJ Bennett[3]; Bernard F Gibbs[3]; *[1]Centre for Parasitology McGill U, Montreal, Canada; [2]Royal Victoria Hospital, MUHC, Montreal, Canada; [3]Sheldon Biotechnology Center, McGill University, Montreal, Canada*

TP 436 **Detection of Differentially Expressed Proteins in Mouse Embryonic Stem Cells (mESCs) using a Micro Liquid Proteomics Approach**; Katherine E. Hersberger; Dang Vu-Phan; Maria Morell; Robert Hinderer; David E. Misek; K. Sue O'Shea; David M. Lubman; *University of Michigan, Ann Arbor, MI*

TP 437 **A New Method for Generating Quantitative and Reproducible Assay Data using Laser Desorption/Ionization Mass Spectrometry**; Fiona Plows[1]; Lee O Lomas[2]; Vanitha Thulasiraman[1]; Egisto Boschetti[1]; *[1]Bio-Rad, Fremont, CA; [2]Ciphergen Biosystems, Fremont, CA*

TP 438 **Simultaneous Quantitation of Four Amyloid β Peptides in Human CSF**; Eddie Takahashi; Anita Howe; Ole Vesterqvist; Zhaosheng Lin; *Wyeth Research, Collegeville, PA*

TP 439 **Standardization of MALDI-TOF Mass Spectrometry Based Proteomic Profiling**; Thomas Elssner[1]; Sven Baumann[2]; Dagmar Niemeyer[3]; Martin Fiedler[2]; Uta Ceglarek[2]; Joachim Thiery[2]; Markus Kostrzewa[1]; *[1]Bruker Daltonik GmbH, L, Leipzig, Germany; [2]Institute of Laboratory Medicine, Leipzig, Germany; [3]Bruker Daltonik GmbH, HB, Bremen, Germany*

TP 440 **SAMDI-TOF Mass Spectrometry for Clinical Diagnostics**; Steven M. Patrie; Milan Mrksich; *University of Chicago, Chicago, IL*

TP 441 **Verification of Potential Protein Biomarkers Identified from Conditioned Media in Lung Cancer Sera with an Antibody-based MRM Approach**; Mark Han; Gordon Nicol; Aiqun Li; Charles Birse; Anh Nguyen; Mehdi Mesri; James Duff; David Parmalee; Erin Brand; William Fitzhugh; Jun Kim; Patrick Kaminker; Paul Moore; Steven M. Ruben; Tao He; *Celera, Rockville, MD*

TP 442 **Enhanced Protein Detection in Metastatic Melanoma Tissue by MALDI MS**; William Hardesty; Mark C. Kelley; Stephen E. Mason; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*

TP 443 **Brain Injury Biomarker Discovery via a Neuroproteomic Platform**; Andrew K. Ottens[1]; Liliana Bustamante[1]; Erin C. Golden[2]; Firas H. Kobeissy[1]; Ronald L. Hayes[2]; Frank C. Tortella[3]; Kevin K. W. Wang[1]; Jitendra R. Dave[3]; *[1]Psychiatry and Neuroscience, University of Florida, Gainesville, FL; [2]Neuroscience Dept., University of Florida, Gainesville, FL; [3]Walter Reed Army Institute of Research, Silver Springs, MD*

TP 444 **Biomarker Discovery in Serum Samples from Babesia-Infected Individuals using 2D-DIGE and MALDI-MS**; Brian Ward[1]; Momar Ndao[1]; Peter J Krause[1]; Michael Edwards[1]; Mark Duncan[1]; Christine Straccini[1]; Terry Spithill[1]; Bernard F Gibbs[2]; *[1]Montreal General Hospital, Montreal, Canada; [2]Sheldon Biotechnology Center, McGill University, Montreal, Canada*

TP 445 **Differential Neuroproteomic Analysis of Contusive Spinal Cord Injury in Rats**; Anshu Chen; RangaswamyRao Ravikumar; Melanie L. McEwen; Joe E. Springer; *University of Kentucky, Lexington, KY*

TP 446 **Towards Stable Diagnostic Setups in Clinical Proteomics: Absolute Quantitation of Peptide Biomarkers using MALDI-TOF MS**; Daniel Baechle[1]; Katrin Sparbier[2]; Hassan Dihazi[3]; Sabine Blaschke[3]; Gerhard-Anton Mueller[3]; Thomas Flad[1]; Markus Kostrzewa[2]; *[1]Panatecs GmbH, Tuebingen, Germany; [2]Bruker Daltonik GmbH, Leipzig, Germany; [3]University Hospital Goettingen, Goettingen, Germany*

TP 447 **Assessing Proteome Distributions in Renal Tumor Margins by Profiling MS Reveals Aberrant Molecular Characteristics Outside of Histological Tumor Border**; Stacey R. Oppenheimer; Deming Mi; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*

TP 448 **MALDI –MS Profiling of Embryonic Chick Heart Morphological Markers**; Kevin L. Schey; Susana Comte-Walters; Leticia Reyes; Edward Krug; John Schwacke; *Medical Univ of South Carolina, Charleston, SC*

TP 449 **LC-MALDI Top-Down Profiling for Biomarker Detection and Identification**; Sven Brand[1]; Victor. G. Fursey[2]; Stephanie Hahner[1]; Detlef Suckau[1]; *[1]Bruker Daltonik GmbH, Bremen, Germany; [2]Bruker Daltonics Inc., Billerica, MA*

TP 450 **LTQ Orbitrap MS and MS-MS Analysis of "Intact" Small Acid Soluble proteins of *Bacillus anthracis* and *Bacillus cereus***; Elisangela R Castanha[1]; Tonya Pekar[2]; Karen Fox[1]; Alvin Fox[1]; *[1]University of South Carolina, Columbia, SC; [2]Thermo Fisher Scientific, San Jose, CA*

TP 451 **Label Free Quantitation of Plasma Proteins by LTQFT**; Kumar Kolli[1]; Richard Katenhusen[1]; David Kirchner[1]; Heather. L Patney[1]; Jamie Weyandt[1]; Amy Burke[1]; Mary J Haberkorn[1]; Richard J Mural[1]; Ellis Gitlin[2]; Darrell Ellsworth[1]; *[1]Windber Research Institute, Windber, PA; [2]GE Heathcare, Piscataway, NJ*

TP 452 **Diagnosis of Human Babesiosis using SELDI ProteinChip Technology**; Momar Ndao[1]; Peter J Krause[1]; Michael Edwards[1]; Mark Duncan[1]; Christine Straccini[1]; Terry Spithill[1]; Brian Ward[1]; Bernard F Gibbs[2]; *[1]Montreal General Hospital, Montreal, Canada; [2]Sheldon Biotechnology Center, McGill University, Montreal, Canada*

TP 453 **MALDI-MS Profiling to Determine Prognostic Indicators of Chemotherapy Response**; Erin H. Seeley; Joshua A. Bauser; Deming Mi; Nara De Matos Grania; Kimberly Johnson; Jennifer A Pietenpol; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*

TP 454 **Comparative Glycoproteomics for the Discovery of Potential Biomarkers for Prion Disease**; Xin Wei; Joshua Schmidt; Allen Herbst; Judd Aiken; Lingjun Li; *University of Wisconsin-Madison, Madison, WI*

TP 455 **Comparative Proteomic Analysis of Radiation-induced Protein Changes in Mouse Lung Tissue: Fibrosis Sensitive versus Resistant Strains**; Xiaoping Ao; Mary A Davis; Ming Zhang; Theodore S Lawrence; David M Lubman; *University of Michigan Medical Center, Ann Arbor, MI*

TP 456 **Identification of DNA Damage Response Biomarkers by Regulated Interaction Domain Affinity Capture (RIDAC);** Jeremy S Myers[1]; Dan C Liebler[2]; *[1]Vanderbilt University Medical Center/AstraZeneca,*

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Nashville, TN; [2]Vanderbilt University Medical Center, Nashville, TN

TP 457 **Correlation of miRNA and SILAC Protein Expression in a Primary Cancer Cell Line**; Lisa Wenrich; Xiquan Liang; Mahbod R. Hajivandi; Brad Love; Christopher Adams; Marshall Pope; *Invitrogen, R & D, Carlsbad, CA*

TP 458 **Proteomic Identification and Quantitative Analysis of Protein Families in Cancer and Control Plasma using an Intact Protein Analysis System**; Sharon J. Pitteri; Vitor Faca; Hong Wang; Qing Zhang; Hiroyuki Katayama; Renee Ireton; Alexei Krasnoselsky; Lisa Newcomb; Kenneth Song; Doug Phanstiel; Veronika Glukhova; Jason Struthers; Matthew Fitzgibbon; Martin McIntosh; Samir Hanash; *Fred Hutchinson Cancer Research Center, Seattle, WA*

TP 459 **High-throughput Biomarker Discovery in Prostate Cancer Using MS-based Quantitative Proteomic Profiling**; Yan Li; Daniel W. Chan; Hui Zhang; *Johns Hopkins University, Baltimore, MD*

TP 460 **Development of a Mass Spectrometry-Based Multiplex Assay for Cardiac Biomarkers**; Eugene Zhen; Michael Berna; Zhaoyan Jin; David Watson; Bradley Ackermann; John Hale; *Eli Lilly & company, Greenfield, IN*

TP 461 **Discovery of Protein Biomarkers of Type-1 Diabetes by LC-MALDI**; Robert Moulder[1]; Waltteri Hosia[1]; Mikko Katajamaa[1]; Arja Reinikainen[1]; Riitta Veijola[2]; Jorma Ilonen[3]; Mikael Knip[4]; Olli Simell[5]; Matej Oresic[6]; Riitta Lahesmaa[1]; *[1]Turku Centre for Biotechnology, Turku, Finland; [2]University of Oulu, Oulu , Finland; [3]University of Kuopio, Kuopio , Finland; [4]University of Helsinki/Tampere University Hospital, Helsinki/Tampere , Finland; [5]Turku University Central Hospital, Turku, Finland; [6]VTT Technical Research Centre of Finland, Espoo, Finland*

TP 462 **Comparative Proteomics for a Genetically Engineered Mouse Model of Huntington's Disease**; Xiaoyun Liu; Benjamin R. Miller; George V. Rebec; David E. Clemmer; *Indiana Univ., Bloomington, IN*

TP 463 ***In vivo* Quantitative Interactome Analysis of the Amyloid Precursor Protein by Time-Controlled Transcardiac Perfusion Crosslinking**; Yu Bai; Kelly Markham; Fusheng Chen; Rasanjala Weerasekera; Joel Watts; Patrick Horne; Yosuke Wakutani; Gerold Schmitt-Ulms; *CRND, University of Toronto, Toronto, Canada*

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TP 464 **Global Proteomic Analysis of Zebrafish Plasma;** I. Ramesh Babu[1]; Wolfram Goessling[2]; Leonard I. Zon[2]; John S. Wishnok[1]; Steven R. Tannenbaum[1]; *[1]Massachusetts Institute of Technology, Cambridge, MA; [2]Harvard Medical School, Boston, MA*

TP 465 **The Effect of MS/MS Fragment Ion Tolerance on Peptide Identification**; David M. Horn; Christine A. Miller; Bryan D. Miller; *Agilent Technologies, Santa Clara, CA*

TP 466 **Comprehensive Proteome Analysis of Breast Cancer Tissue by LC-ESI MS/MS Combined with Sequential Protein Precipitation and Solublization Methods**; Yan Gong; Nan Wang; Fang Wu; Liang Li; *Department of Chemistry, Edmonton, Canada*

TP 467 **Proteomic Shift to Arginine Metabolism during Carbon Starvation in *Lactococcus lactis***; Bart Weimer[1]; Dong Chen[1]; Lan-Szu Chou[2]; Yi Xie[3]; Bala Ganesan[1]; *[1]Center for Integrated Biosystems, Logan, UT; [2]Institute for Clinical and Experimental Pathology, Salt Lake City, Utah; [3]Johns Hopkins University, Baltimore, Maryland*

TP 468 **Characterization of Human Liver Peroxisomes by Mass Spectrometry-Based Protein Correlation Profiling**; Sebastian Wiese[1]; Thomas Gronemeyer[1]; Rob Ofman[2]; Martin Eisenacher[1]; Christian Stephan[1]; Heiko Hayen[3]; Juergen Nolte[3]; Ronald Wanders[2]; Helmut E Meyer[1]; Bettina Warscheid[1]; *[1]Medical Proteom-Center, Ruhr-University Bochum, Bochum, Germany; [2]University of Amsterdam, Amsterdam, Netherlands; [3]Institute for Analytical Sciences, Dortmund, Germany*

TP 469 ***In vitro* Pharmacoproteomic and Toxicoproteomic Study of a Novel Benzofuran Isolated from Onobrychis ebenoides in MCF-7 and DU-145 Cells**; Maria Halabalaki[1]; Theodoros Roumeliotis[2]; Xanthippi Alexi[3]; Panagiotis Zerefos[2]; Aggeliki Papadopoulou[2]; Antonia Vlahou[2]; Sophia Kossida[2]; Michael N. Alexis[3]; Alexios-Leandros Skaltsounis[1]; Spiros D. Garbis[2]; *[1]University of Athens, Pharmacognosy Laboratory, Athens, Greece; [2]Academy of Athens - Biomedical Foundation, Athens, Greece; [3]National Hellenic Research Foundation, Athens, Greece*

TP 470 **Proteomics Analysis of the Interactome of N-myc Downstream Regulated Gene 1 and its Interactions with the Androgen Response Program**; Lan Chun Tu; Xiaowei Yan; Leroy Hood; Biaoyang Lin; *Inst for Systems Biology, Seattle, WA*

TP 471 **Analysis of Peptides/ Proteins by Pressurized Planar Electrochromatography Coupled with Matrix-Assisted Laser Desorption/ Ionization Time-of-Flight Mass Spectrometry**; Linan Song; Mei Wang; Yang Wang; Bennett Rockney; Wanye F. Patton; *PerkinElmer Life and analytical sciences, Waltham, MA*

TP 472 **Enhancing the Dynamic Range for Proteomics Applications Using Electrochemical/Electrospray Ionization (ECI/ESI) Mass Spectrometry**; Sonja Hess[2]; John Lloyd[1]; *[1]NIH, Bethesda, MD; [2]California Institute of Technology/ BI, Pasadena, CA*

TP 473 **Proteomic Analysis of the Striatum in a L-Dopa-Induced Dyskinetic Animal Model of Parkinson's Disease**; Marcus Svensson[1]; Birger Scholz[1]; Karl Sköld[1]; Henrik Alm[1]; Kim Kultima[1]; Maria Fälth[1]; Alan R. Crossman[2]; Erwan Bezard[3]; Per E. Andrén[1]; *[1]Uppsala University, Uppsala, Sweden; [2]University of Manchester, Manchester, United Kingdom; [3]University Victor Segalen, Bordeaux, France*

TP 474 **Detecting Self-Assembled Protein Microarrays by MALDI-TOF**; Mike Kimzey; *University of Arizona, Tucson, AZ*

TP 475 **All Proteomic Analyses are Created Equal, and Exhibit an Ion Density that Challenges Conventional Bottom-up LC/MS Analyses**; Scott J. Berger; Craig R. Dorschel; Jeffery C. Silva; Marc V. Gorenstein; Scott J. Geromanos; *Waters Corporation, Milford, MA*

TP 476 **Evidence-Based Protein Identification by LC-MS^3 Linear Ion Trap Mass Spectrometry**; Kiyonaga Fujii[1]; Tomoyo Nakano[2]; Fumihiko Usui[2]; Yasuhiko Bando[3]; Toshihide Nishimura[4]; Fuyuhiko Inagaki[1]; *[1]Hokkaido University, Sapporo, Japan; [2]AMR Inc., Tokyo, Japan; [3]Biosys Technologies Inc., Tokyo, Japan; [4]Tokyo Medical University, Tokyo, Japan*

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TP 477 **An MS-compatible Multicompartmental Electrolyzer for Isoelectric Trapping Separations: the MSWIFT**; Stephanie M. Cologna; Peniel J. Lim; Gyula Vigh; William K. Russell; David H. Russell; *Texas A&M University, College Station, TX*

TP 478 **Monitoring Proteolytic Digestion using the Fluorophore Epicocconone;** Duncan Veal[1]; H-Yoon Choi[1]; Peter H Karuso[2]; *[1]FLUOROtechnics Pty Limited, Macquarie University, Australia; [2]Macquarie University, Sydney, Australia*

TP 479 **Exploring the Pichia Proteome in Pharmaceutical Product Development**; Charles Mitchell; Ilana S. Aldor; Lihua Huang; *Eli Lilly and Company, Indianapolis, IN*

TP 480 **New Developments in Proteomic for the Analysis of Art and Archaeological Materials**; Caroline Solazzo[1]; David Erhardt[2]; Elisabeth Martin[3]; Christian Rolando[1]; Caroline Tokarski[1]; *[1]Univ. des Science/Tech de Lille, Villeneuve d'Ascq, France; [2]Smithsonian's Museum Conservation Institute (MCI), Washington DC, DC; [3]Laboratoire de Recherche des Musées de France, Paris, France*

TP 481 **The Elucidation of Endoprotease Substrate Specificity by Mass Spectrometry with an On-Bead Peptide Substrate Library**; Nicolas A. Stewart[1]; Ajoy Basak[2]; Timothy D. Veenstra[1]; *[1]SAIC-Frederick, Frederick, MD; [2]Ottawa Health Research Institute, Ottawa, Canada*

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TP 482 **Increasing the Throughput of Proteomic Analysis: Efficiently Feeding the Mass Spectrometer**; Richard C. Jones; Jason T. Taylor; Ricky D. Edmondson; *NCTR, Jefferson, AR*

TP 483 **Shotgun Proteomics of *Medicago truncatula* Culture Cells Using Monolithic Capillary LC/MS/MS**; Mohamed Bedair; Zhentian Lei; Bonnie S. Watson; Lloyd W. Sumner; *Samuel Roberts Noble Foundation, Ardmore, OK*

TP 484 **Improving Protein Coverage in Small Volumes of Cerebrospinal Fluid by Combining Different Types of Mass Spectrometers**; Marcel P Stoop; Peter C Burgers; Lennard J M Dekker; Rogier Q Hintzen; Theo M Luider; *Erasmus University Medical Center, Rotterdam, the Netherlands*

TP 485 **Methods of Enrichment of LMW Fraction of Human Plasma for MALDI-TOF MS Profiling of Potential Biomarkers of Lung Cancer**; Valeriy E. Shevchenko; Natalia E. Arnotskaya; Oxana P. Trifonova; Valentina A. Yurchenko; David G. Zaridze; *N. N. Blokhin Russian Cancer Research Center, Moscow, Russian Federation*

TP 486 **Evaluation of Three Methods for Removal of Highly Abundant Human Plasma Proteins**; Hua Lin; Thomas A. Shaler; Jing Wang; Melissa Chen; Erika Price; Jaya Kothule; Sophia Chen; Christopher H Becker; *Biomarker Discovery Sciences, PPD, Inc., Menlo Park, CA*

TP 487 **sAnalysis of Membrane Proteome of Zebrafish Liver: Comparison of Protein Extraction Methods (SDS vs. ALS) for LC-MS/MS**; Fang Wu; Nan Wang; Yan Gong; Liang Li; *Department of Chemistry, University of Alberta, Edmonton, Canada*

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TP 488 **Determining the Optimal Method of Extracting Proteins from Urine for Proteomic Biomarker Discovery**; Richard S. Lee; Flavio Monigatti; Andrew Briscoe; Bogdan Budnik; Judith A.J. Steen; Michael R. Freeman; Hanno Steen; *Children's Hospital Boston, Harvard Medical School, Boston, MA*

TP 489 **Comparing Top-down Analysis of Antibody Fc, LC and Fd proteolytic fragments by LTQ-Orbitrap and Q-ToF Premier**; David Hambly; Himanshu S Gadgil; Leo Bonilla; *Amgen Inc., Seattle, WA*

TP 490 **Peptide Isoelectric Focusing Prefractionation Prior to nanoLC-MS is a Powerful Alternative to GeLC-MS for SILAC-Based Quantitative Proteomics**; Ravi Krovvidi[1]; Kay T Junghanns[2]; Burghardt Scheibe[2]; Gerhard Mittler[1]; *[1]Max Planck Institute of Immunobiology, Freiburg, Germany; [2]GE Healthcare Biosciences, Freiburg, Germany*

TP 491 **Assessment of Multi-dimensional Separation Techniques for High Throughput Shotgun Proteomic Workflows**; Jonathan Brock; Nancy Winters; Sarah Stuart; David Tabb; Daniel Liebler; *Vanderbilt University, Nashville, TN*

TP 492 **Comparison of Multiple Liquid Partition Chromatography to Fractionate Human Serum for LC-MALDI Mass Spectrometry and LC-ESI Tandem Mass Spectrometry**; Mike Mcdonell[1]; *[1]Bruker Daltonics, Delta, Canada; [2]Ryerson University, Toronto, Canada*

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TP 493 **A novel Method of Improving Visualisation of Liquid Chromatography-Ion Mobility-Orthogonal Time-of-Flight Mass Spectrometry (LC-IMS-oaTOF-MS) of Complex Mixtures;** Jim Langridge[1]; Ian Ross[1]; Simon Baker[1]; Martin Green[1]; Chris Hughes[1]; Pam Donoghue[2]; Mike Dunn[2]; *[1]Waters Corporation, Manchester, United Kingdom; [2]UCD, Conway Institute, Dublin, Ireland*

TP 494 **N-Terminal Proteomics : A Strategy Based on N-Terminal Protein Derivatization and LC-MS-MS**; Sebastien Gallien[1]; Emmanuel Perrodou[2]; Christine Carapito[1]; Odile Lecompte[2]; Olivier Poch[2]; Christine Schaeffer[1]; Alain Van Dorsselaer[1]; *[1]IPHC-DSA, LSMBO, CNRS-ULP UMR 7178, Strasbourg, France; [2]IGBMC CNRS/INSERM/ULP, Illkirch, France*

TP 495 **Ultra-fast Separations of Peptides and Proteins using Large Pore, Sub-two Micron Columns**; Reno Nguyen; Scott Anderson; Ian Chappell; Wendy Luo; *Grace Davison, Deerfield, IL*

TP 496 **Anion and Cation Mixed-bed Ion-exchange for Enhanced Multidimensional Separations of Peptides and Phosphopeptides**; Akira Motoyama; Tao Xu; Cristian I. Ruse; James A. Wohlschlegel; John R. Yates, III; *The Scripps Research Institute, La Jolla, CA*

TP 497 **Development of a Universal Method for Selective Isolation of N-terminal Peptides from Proteins and their *de novo* Sequencing**; Daisuke Nakayama[1]; Minoru Yamaguchi[1]; Hiroki Kuyama[2]; Eiji Ando[1]; Taka-aki Okamura[3]; Takashi Nakazawa[4]; Osamu Nishimura[2]; Susumu Tsunasawa[1]; *[1]Life Science Laboratory, Shimadzu Corporation, Kyoto, Japan; [2]Institute for Protein Research, Osaka University, Suita, Japan; [3]Graduate School of Science, Osaka University, Toyonaka, Japan; [4]Department of Chemistry, Nara Women's University, Nara, Japan*

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TP 498 **Evaluation of Chip Designs for Titanium Dioxide based Phosphopeptide Enrichment, Separation and Mass Spectrometric Detection**; Shabaz Mohammed[1]; Martijn Pinkse[1]; Joris Benschop[1]; Karsten Kraiczek[2]; Georges Gauthier[2]; Albert Heck[1]; *[1]University of Utrecht, utrecht, Netherlands; [2]Agilent Technologies, Waldbronn, Germany*

TP 499 **Scanning a Lower Mass Range to Improve Ion Scores and Sequence Coverage for Protein Identification**; Nedyalka Dicheva; Carol Parker; David Robinette; Mihaela Mocanu; Steven Young; Xian Chen; *UNC-Chapel Hill, Chapel Hill, NC*

TP 500 **High-Performance Multidimensional Separations for Proteomic Applications**; Brian F. Fuller[1]; Andrew K. Ottens[2]; *[1]IDP, University of Florida, Gainesville, FL; [2]Psychiatry and Neuroscience, University of Florida, Gainesville, FL*

TP 501 **Modifications to Botulinum Protease within Neurons**; Jon P. Degnore; Charles B. Shoemaker; Paula Nguyen; Michael Berne; *Tufts University, Boston, MA*

TP 502 **New Technology in Analyzing Membrane Proteomes: Comprehensive Shotgun Proteomic Analysis of Rat Postsynaptic Density using Chemical Hydrolysis Method**; Taehoon Lee[1]; Joseph Kwon[1]; Younyoung You[1]; Sang Hoon Ha[1]; Martin Blüggel[2]; Gerhard Körting[2]; Herbert Thiele[3]; *[1]SIGMOL, Pohang, South Korea; [2]Protagen, Dortmund, Germany; [3]Bruker Daltonik, Bremen, Germany*

TP 503 **Micro-proteome Analysis using Capillary Column in Multi-dimensional Separation;** Hyeyeung Kim; Rong Wu; Kathleen R. Cho; David Misek; David M. Lubman; *University of Michigan, Ann arbor, MI*

TP 504 **Bioaffinity Microscale Magnetic Reactor for Improved MS Analysis of Entire Protein Complex;** Lucie Korecka[1]; Barbora Jankovicova[1]; Lenka Hernychova[2]; Jana Krenkova[3]; Zuzana Bilkova[1]; *[1]University of Pardubice, Pardubice, Czech Republic; [2]Purkyne Military Medical Academy, Hradec Kralove, CZ; [3]Institute of Analytical Chemistry AS CZ, Brno, CZ*

TP 505 **C-Terminal Derivatization of Proteins via Hydrazides for Sequencing with MALDI-MS**; Takashi Nakazawa[1]; Minoru Yamaguchi[2]; Mariko Nakagawa[1]; Mutsumi Oka[1]; Chihiro Nakajima[1]; Hiroki Kuyama[3]; Eiji Ando[2]; Daisuke Nakayama[2]; Taka-aki Okamura[3]; Osamu Nishimura[2]; Susumu Tsunasawa[2]; *[1]Nara Women's University, Nara, Japan; [2]Shimadzu Corporation, Kyoto, Japan; [3]Osaka University, Osaka, Japan*

TP 506 **Gas-Phase MudPIT: µLC-FAIMS-MS/MS for Proteomics on an Ion Trap Mass Spectrometer**; Jesse Canterbury; Xianhua Yi; Michael J. MacCoss; *Univ of Washington, Genome Sciences, Seattle, WA*

TP 507 **Characterization of ß-catenin Complexes Associated with Cancer Metastasis by Nanoprobe-assisted Proteomic Appraoch**; An-kai Su[1]; Po-Chiao Lin[2]; Chun-Cheng Lin[2]; Yu-Ju Chen[1]; *[1]Institute of Chemisty, Academia Sinica, Taipei, Taiwan; [2]National Tsing Hua University, Taipei, Taiwan*

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TP 509 **A Novel Approach for the Development of a Reference System for Haemoglobin A2 Quantization Based ON Peptide Mapping using LC-MS**; Audrey Bednarczyk[1]; Dominique Roecklin[1]; Christine Schaeffer[1]; Alain Van Dorsselaer[1]; Donatella Caruso[2]; Emmanuelle Bissé[3]; Renata Paleari[2]; Andrea Mosca[2]; IFCC .[4]; *[1]IPHC-DSA, LSMBO, ULP, CNRS, Strasbourg, France; [2]University of Milano, Milano, Italy; [3]University Hospital, Freiburg, Germany; [4]for IFCC Working Group on Standardization of HbA2*

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TP 510 **Microwave-Assisted Acid Hydrolysis Combined with MALDI MS for Studying Prion Structures**; Bela Reiz; Donovan Duggan; Bow Suriyamongkol; David S. Wishart; Liang Li; *University of Alberta, Edmonton, Canada*

TP 511 **Affinity Technique to Capture and Identify Arsenic Binding Protein**; Huiming Yan; X.Chris Le; *University of Alberta, Edmonton, Alberta, Canada*

TP 512 **Multidimensional Liquid Chromatography of Proteins Using Monolithic IEX and RP Columns**; Evert-Jan Sneekes; Robert van Ling; Bas Dolman; Remco Swart; *Dionex Benelux, Amsterdam, The Netherlands*

TP 513 **Determination of Cysteine Redox Status of NADH Dehydrogenase in a Parkinson's Disease Mouse Model using a Optimized cICAT Approach;** Steven R. Danielson; Birgit Schilling; Rebeccah R. Riley; Bradford W. Gibson; Julie K. Andersen; *Buck Institute For Age Research, Novato, CA*

TP 514 **Poly co-(N-isopropylacrylamide-methacrylic acid) (NIPAAM-MAA) Brush Polymer Surfaces for the Selective Capture of Proteins from Complex Mixtures**; Ganga Fernando; Venney Wong; Gary R. Kinsel; Daniel J. Dyer; Loraine van Waasbergen; *Southern Illinois University at Carbondale, Carbondale, IL*

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TP 515 **Robust Method for the Confident Location of Protein Phosphorylation Sites**; Nurhan Ozlu[1]; Dalila Bensadek[1]; Thomas Patterson[1]; Timothy Mitchison[2]; Hanno Steen[1]; Judith A.J. Steen[1]; *[1]Harvard Medical School and Children's Hospital, Boston, MA; [2]Harvard Medical School, Boston, MA*

TP 516 **Phosm – A Software Tool for Comprehensive and Concise Mapping of Protein Phosphorylation Sites**; Andreas Schlosser[1]; Jens Vanselow[2]; Achim Kramer[2]; *[1]Center for Systems Biology, ZBSA, Freiburg, Germany; [2]Laboratory of Chronobiology, Charité, Berlin, Germany*

TP 517 **Evaluation of the Sequence Specific Retention Time Calculator (SSRTCalc) for High-content Hypothesis-Driven Phosphoproteomics by LC-MALDI-MS/MS**; Chi-Chi Chou[1]; Vincent C. Chen[2]; Hsin-Yu Hsieh[1]; Helene Perreault[2]; Kay-Hooi Khoo[1]; *[1]National Core Facilities for Proteomics Research, Academia Sinica, Taipei, Taiwan; [2]University of Manitoba, Winnipeg, Manitoba,Canada*

TP 518 **Quantitative Analysis of Tyrosine Phosphorylation Produced Following Transactivation of the Epidermal Growth Factor Receptor (EGFR) by IGF-1**; Shi-Jian Ding; Wei-Jun Qian; Opresko Lee; Rui Zhao; Aleksey V Tolmachev; Athena A Schepmoes; Matthew E. Monroe; Steven Wiley; David G. Camp II; Richard D. Smith; *Pacific Northwest National Lab, Richland, WA*

TP 519 **Time-resolved Quantitative Phosphoproteomic Analysis of Mast Cell Signaling**; Lulu Cao; *Brown University, Providence, RI*

TP 520 **Stable Isotope Phosphoprotein Affinity Tagging (SIPAT) Approach for Quantitation of Protein**

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Phosphorylation Degree; Yet-Ran Chen[3]; Szu-Chiao Huang[2]; Yu-Ju Chen[1]; *[1]Academia Sinica, Taipei, Taiwan; [2]National Central University, Taoyuan, Taiwan; [3]National Taiwan Ocean University, Keelung, Taiwan*

TP 521 **Quantitative Analysis of Protein Expression and Phosphorylation Associated with Adipocyte Differentiation by Yin-Yang MDLC-MS/MS**; Su-Jun Li; Jie Dai; Yi-Bo Wu; Xing-Lin Yang; Jia-Rui Wu; Yi-Xue Li; Rong Zeng; *Shanghai Institutes for Biological Sciences, Shanghai, China*

TP 522 **Protein Phosphorylation Dynamics in Bacteria Investigated by SILAC and Quantitative Mass Spectrometry**; Boris Macek[1]; Boumediene Soufi[2]; Florian Gnad[1]; Ivan Mijakovic[2]; Matthias Mann[1]; *[1]MPI of Biochemistry, Martinsried, Germany; [2]Technical University of Denmark, Lyngby, Denmark*

TP 523 **Quantitative Analysis of the Insulin Signalling Cascade using SILAC**; Mark Larance[1]; Michael Guilhaus[2]; David James[1]; *[1]Garvan Institute of Medical Research, Sydney, Australia; [2]BMSF, University of New South Wales, Sydney, Australia*

TP 524 **Reference-facilitated Phosphoproteomics: Fast and Reliable Phosphopeptide Validation by Microlc-ESI-Q-TOF MS/MS**; Susumu Y. Imanishi; Vitaly Kochin; Saima E. Ferraris; Aurélie de Thonel; Hanna-Mari Pallari; Garry L. Corthals; John E. Eriksson; *Turku Centre for Biotechnology, Turku, Finland*

TP 525 **Quantitative Phosphoproteomics: High Sensitivity and Multiplexing Using Two-Stage IMAC Enrichment, iTRAQ labeling, and Linear Ion Trap/PQD**; Wells W. Wu[1]; Guanghui Wang[1]; Terry Zhang[2]; Paul A. Insel[3]; Rong-Fong Shen[1]; *[1]Proteomics Core Facility, NHLBI, NIH, Bethesda, MD; [2]Thermo Fisher Scientific, San Jose, CA; [3]University of California, San Diego, La Jolla, CA*

TP 526 **Software Tool for Reference-facilitated Phosphoproteomics**; Garry Corthals[1]; Mikko K. Katajamaa[3]; Susumu Y. Imanishi[2]; John E. Eriksson[2]; *[1]Turku Centre for Biotechnology, Turku, Finland; [2]Åbo Akademi University, Turku, Finland; [3]University of Turku, Turku , Finland*

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TP 528 **Proteomic Characterization of the Facultative Psychrophile *Pedobacter cryoconitis* Based on both ^{15}N Metabolic Labeling and *de novo* Sequencing**; Ana G. Pereira-medrano[1]; Rosa Margesin[2]; Phillip C. Wright[1]; *[1]University of Sheffield, Sheffield, United Kingdom; [2]Universität Innsbruck, Innsbruck, Austria*

TP 529 **Environmental Proteomics of the OM43 Clade of Beta-proteobacteria in Oregon Coastal Seawater**; Paul E. Abraham[1]; Sarah M Sowell[2]; J.B. Kitner[2]; Mark G Lefsrud[1]; Manesh Shah[1]; Robert L. Hettich[1]; Nathan C. VerBerkmoes[1]; Steve J. Giovannoni[2]; *[1]Oak Ridge National Lab, Knoxville, TN; [2]Oregon State University, Corvallis, OR*

TP 530 **Analysis of *Neisseria gonorrhoeae* Metabolism by Label-Free Quantitative Proteomics**; Jinsam You[1]; Dalai Yan[2]; Kerry Bemis[1]; Tony Tegeler[1]; Mu Wang[1]; Jean-Pierre Wery[1]; *[1]INCAPS, Indianapolis, IN; [2]Indiana University School of Medicine, Indianapolis, IN*

TP 531 **Proteogenomics of a Natural Microbial Community Before and After a Putative Phage Infection Show Species and Functional Perturbations**; Nathan C. Verberkmoes[1]; Paul Wilmes[2]; Vincent J. Denef[2]; Mark Lefsrud[1]; Paul Abraham[1]; Manesh Shah[1]; Mya Breitbart[3]; Michael P. Thelen[4]; Jillian F. Banfield[2]; Robert L. Hettich[1]; *[1]Oak Ridge Nat'l Lab, Oak Ridge, TN; [2]University of California, Berkeley, Berkeley, CA; [3]University of South Florida, St. Petersburg, FL; [4]Lawrence Livermore National Laboratory, Livermore, CA*

TP 532 **Pox Virion Structure via Relative Quantitative Proteomics;** Paul D. Gershon[1]; Wayne Chou[1]; Nadi Wickramesekera[2]; Paula Traktman[2]; *[1]University of California, Irvine, Irvine, CA; [2]Medical College of Wisconsin, Milwaukee, WI*

TP 533 **Comparative Proteomic Analysis of the *Brugia malayi* Life Cycle**; Zhaojing Meng[1]; Roshanak T. Semnani[2]; David A. Lucas[1]; King Chan[1]; Haleem J. Issaq[1]; Timothy D. Veenstra[1]; Thomas B. Nutman[2]; *[1]SAIC-Frederick, Frederick, MD; [2]NIAID, Bethesda, MD*

TP 534 **Proteomic Characterization of the Cyanobacteria Cyanothece 51142**; Jon M. Jacobs[1]; Eric A. Welsh[2]; Michelle Liberton[2]; Jana Stockel[2]; Carrie D. Nicora[1]; David G. Camp[1]; Himadri B. Pakrasi[2]; Richard D. Smith[1]; *[1]Pacific Northwest National Laboratory, Richland, WA; [2]Washington University, St. Louis, MO*

TP 535 **Mass Spectrometric Determination of the *N*- and *C*-termini of Zona Pellucida Glycoproteins from *X. laevis* Eggs**; Zhiguo Li[1]; Ruben T. Almaraz[2]; Jerry L. Hedrick[2]; Fan Xiang[3]; Andreas Franz[1]; *[1]Department of Chemistry, University of the Pacific, Stockton, CA; [2]Department of Animal Sciences, UC Davis, Davis, CA; [3]Shimadzu Biotech Corp., Pleasanton, CA*

TP 536 **Stable Isotope Labeling for Relative Protein Quantification in the Agronomically Important Filamentous Fungus *Aspergillus flavus***; D. Ryan Georgianna; David C. Muddiman; Gary A. Payne; *North Carolina State University, Raleigh, NC*

TP 537 **Proteomic Analysis of Oocyst Wall Proteins of Cryptosporidium parvum**; Tianmin Huang; Fayun Che; Hongshan Zhang; Carlos J. Madrid-Aliste; Qilie Luo; Edward Nieves; Kami Kim; Andras Fiser; Louis M. Weiss; Ruth Hogue Angeletti; *Albert Eistein College of Medicine, Bronx, NY*

TP 538 **Two Dimensional Gel Separation Followed by ESI FT-ICR MS for Differential Membrane Proteome Analysis of *Borrelia burgdorferi***; Sudarslal Sadasivannair[1]; Sukanya Narasimhan[2]; Doris E Terry[3]; Mark R Emmett[1]; Carol L Nilsson[1]; Erol Fikrig[2]; Alan G Marshall[1]; *[1]National High Magnetic Field Laboratory, FSU, Tallahassee, FL; [2]Department of Medicine,Yale University, New Haven, CT; [3]College of Medicine, FSU, Tallahassee, FL*

TP 539 **Proteomic Investigation of the Hydrogen Producing Thermophilic Carboxydothermus Hydrogenoformans Grown with CO and Syngas**; David Reed; Joni Barnes; Cody Permann; Kastli Schaller; Vicki Thompson; *Idaho National Laboratory, Idaho Falls, ID*

TP 540 **Identification of Key Membrane Proteins and Concomitant Analysis of Lipid Signatures in**

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ANAMMOX Bacteria; Roger Karlsson[1]; Anders Karlsson[2]; Ingela Lanekoff[1]; Anna Bredberg[1]; Ola Bäckman[1]; Stefan Hulth[1]; *[1]Göteborg University, Gothenburg, Sweden; [2]Nanoxis AB, Gothenburg, Sweden*

TP 541 **Antimicrobial Compounds Induced during the Immune Response of *Neobellieria bullata* Larvae**; Miloslav Sanda[1]; Alice Ciencialova[1]; Josef Cvacka[1]; Vladimir Vrkoslav[1]; Radek Sindelka[2]; Bohumir Koutek[1]; *[1]Institute of Organic Chemistry and Biochemistry, Flemingovo n. 2 Prague 6, Czech Republic; [2]Institute of Molecular Genetics, Videnska 1083, Prague 4, Czech Republic*

TP 542 **Profiling a Bacterial Proteome under Different Growth Conditions: Challenges and Solutions to Differential Proteomic Analysis**; Lewis K. Pannell[1]; Aimee M. Tucker[2]; Nicolas Verneuil[2]; Robert Alecio[3]; Mary L. Blackburn[4]; David O. Wood[2]; *[1]Mitchell Cancer Institute, Univ South Alabama, Mobile, AL; [2]Department of Microbiology & Immunology, Mobile, AL; [3]Positive Probability Limited, Isleham, UK; [4]ThermoFisher Scientific, Somerset, NJ*

TP 543 **Proteome Analysis of *Aspergillus oryzae* for Precise Prediction of Protein Coding Regions and Protein Profiling**; Hanako Ataku; Miyako Mise; Keiko Nishijima; Jun Yamazaki; Kazumi Sasaki; Syuji Yamazaki; Nobuyuki Fujita; *National Institute of Technology and Evaluation, Tokyo, Japan*

TP 544 **Identification of *Staphylococcus aureus* Exoproteins by Two Dimensional Liquid Chromatography-Mass Spectrometry**; Shobha Ravipaty; Lindsay, E. Darling; James, P. Reilly; *Department of Chemistry, Indiana University, Bloomington, IN*

TP 545 **Microbial Proteome q-Value Cut-Off Calibration for Quantitative Proteomics**; Tiansong "Tony" Wang; Qiangwei Xia; Murray Hackett; *University of Washington, Seattle, WA*

TP 546 **A Proteomics Investigation of Predicted Pathways in *Desulfovibrio vulgaris***; Alyssa M. Redding[1]; Aindrila Mukhopadhyay[1]; Sara Gaucher[1]; Marcin Joachimiak[1]; Dominique C. Joyner[1]; Jizhong Zhou[1]; Terry C. Hazen[1]; Jay D. Keasling[1]; *[1]Virtual Institute of Microbial Stress & Survival, Berkeley, CA; [2]UC Berkeley, Berkeley, CA; [3]Lawrence Berkeley National Laboratory, Berkeley, CA; [4]Sandia National Laboratory, Livermore, CA; [5]Oklahoma University, Norman, OK*

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TP 547 **Identification of eIF4E Transcription Factor Sensitivity Element mRNA-Protein Interactions**; Katherine LB Borden[1]; Michael J Osborne[1]; Nadeem Siddiqui[1]; Laurent Volpon[1]; Ivan Topisirovic[1]; Mike Aguiar[2]; Bernard F Gibbs[2]; *[1]Dept. of Pathology and Cell Biology, U de Montreal, Montreal, Canada; [2]Sheldon Biotechnology Center, McGill University, Montreal, Canada*

TP 548 **Development of a Highly Sensitive High-Throughput Mass Spectrometry-Based Assay for Rat Procollagen Type-I N-Terminal Propeptide (PINP)**; Bomie Han[1]; Laura Hale[1]; Masahiko Sato[1]; Jinsam You[2]; Marci Copeland[2]; John Hale[1]; *[1]Eli Lilly and Co, Indianapolis, IN; [2]INCAPS, Indianapolis, IN*

TP 549 **Detection and Diagnosis of Genetic Disorders of Glycosylation using an MRM-driven Targeted Approach on a Triple Quadrupole Linear Ion Trap**; Michelle L Colgrave[1]; Alun Jones[2]; Teresa Munce[3]; Francis G Bowling[3]; *[1]Applied Biosystems, Brisbane, Australia; [2]Institute for Molecular Bioscience, Brisbane, Australia; [3]Mater Children's Hospital, South Brisbane, Australia*

TP 550 **Immunoregulation of Transforming Growth Factor-β and Interleukin-6**; Fong-Wei You[1]; Chao-lin Liu[2]; Ya-ken Chen[1]; Jyp-Ping Tsai[3]; Hsin-Wei Chen[3]; Wei-Kang Wu[1]; Chia-rui Shen*[1]; *[1]Chang Gung University, Kwei-Shan, Tao-Yuan, Taiwan; [2]MingChi University of Technology, Taishan, Taipei, Taiwan; [3]National Health Research Institutes, Chunan, Hsinchu, Taiwan*

TP 551 **Bone Proteomics of Osteoporosis Patients using ITRAQ technology**; Patrik Onnerfjord; Dick Heinegård; *Lund University, Lund, Sweden*

TP 552 **Quantitative Proteomic Analysis of Diabetic Mouse Pancreatic Islets by iTraq and Mass Spectrometry**; Ying Yang; Hongfang Lu; Michael Wheeler; *University of Toronto, Toronto, ON, Canada*

TP 553 **Proteomic Analysis of the Human Endometrial Secretome**; Mihaela Mocanu[2]; Viorel Mocanu[2]; Nedyalka Dicheva[2]; Jessica Scotchie[1]; Marc Fritz[1]; Maria Warren[2]; Steven Young[1]; Carol Parker[2]; Xian Chen[2]; *[1]Obstetrics & Gynecology, UNC - Chapel Hill, Chapel Hill, NC; [2]UNC-Duke Proteomics Center, Chapel Hill, NC*

TP 554 **Classification of Calcium Oxalate, Phosphate and Brushite Kidney Stones by Protein Content**; LeeAnn Higgins[1]; Benjamin K. Canales[2]; Lorraine B. Anderson[2]; Joel W. Slaton [2]; Nathan W. Liu [2]; Ken P. Roberts[2]; Manoj Monga [2]; *[1]University of MN, St. Paul, MN; [2]University of Minnesota, Minneapolis, MN*

TP 555 **Identification of Novel Proteins in Activated Human T cells that Drive Macrophage Activation and Cytokine Production**; Karen R. Jonscher; Li Li; Bjoern Schneidewinnd; Ling-Jia Hu; David Norris; Carl K. Edwards; *Univ. of CO Health Sciences Center, Denver, CO*

TP 556 **A Differential Proteome Analysis of Normal and Osteoarthritic Chondrocytes Points to Distortion of Vimentin Organisation in Osteoarthritis**; Stijn Lambrecht; Gust Verbruggen; Peter C.M. Verdonk; Dirk Elewaut; Dieter Deforce; *Ghent University, Gent, Belgium*

TP 557 **Quantitative Profiling of Bax-Associated Proteins in Modulation of TRAIL-Induced Apoptosis**; Peng Wang[1]; Andy Lo[1]; Raymond Lai[1]; Chunhai Hao[2]; Liang Li[1]; *[1]University of Alberta, Edmonton, Canada; [2]Emory University, Atlanta, GA*

TP 558 **Secretome of Primary Cultures of Human Adipose-Derived Stem Cells (ASCs): Modulation of Serpins by Adipogenesis**; Indu Kheterpal[1]; Sanjin Zvonic[1]; Michael Lefevre[1]; Gail Kilroy[1]; Z. Elizabeth Floyd[1]; James P. DeLany[2]; Amy Gravois[1]; Angie White[1]; Xiying Wu[1]; Jeffrey M. Gimble[1]; *[1]Pennington Biomedical Research Center, Baton Rouge, LA; [2]University of Pittsburgh, Pittsburgh, PA*

TP 559 **The Application of Proteomics Methodology to Influenza Vaccine Formulations;** Terry D. Cyr; Diane Bertrand; Michel Girard; Virginia Garcia-Canas; Barry Lorbetskie; *Health Canada, Ottawa, Canada*

TP 560 **Comprehensive Proteomic Profiling of Placenta-Derived Adherent Cells (PDACs)**; Neerav D. Padliya[1]; Roger G. Biringer[2]; Christopher W. Lugo[1]; Hemlata Rana[1]; Mohit B. Bhatia[1]; Andreas F. R. Hühmer[2];

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Wolfgang T. Hofgartner[1]; Robert J. Hariri[1]; *[1]Celgene Cellular Therapeutics, Summit, NJ; [2]Thermo Fisher Scientific, San Jose, CA*

TP 561 **Post-Translational Modifications in the Rat Lumbar Spinal Cord in Experimental Autoimmune Encephalomyelitis (EAE);** Jennifer E. Grant[1]; Jun Hu[1]; Tong Liu[1]; Mohit R. Jain[1]; Stella Elkabes[2]; Hong Li[1]; *[1]UMDNJ Medical School Cancer Center, Newark, NJ; [2]UMDNJ Neuroscience and VA Neurology Service, Newark, NJ*

TP 562 **Nitrotyrosine-Containing Proteins in Diabetic Rat Retina and Müller Cells**; Xianquan Zhan[1]; Yunpeng Du[2]; John S. Crabb[1]; Timothy S. Kern[2]; John W. Crabb[1]; *[1]Cole Eye Institute, Cleveland Clinic Foundation, Cleveland, OH; [2]Dept. of Medicine,Case Western Reserve Univ., Cleveland, OH*

TP 563 **Mass Spectrometry Based Proteogenomic Characterization of the Human Gut Microflora from Crohn's Patients;** Alison Russell[1]; M. Rosenquist[2]; M.G. Lefsrud[1]; M. Shah[1]; L. Engstrand[3]; C. Tysk[4]; J. Halfvarsson[4]; N.C. VerBerkmoes[1]; R.L. Hettich[1]; J. Jansson[2]; *[1]Oak Ridge National Lab, Knoxville, TN; [2]Swedish Univ. of Agriculture Sciences, Uppsala, Sweden; [3]Swedish Institute for Infectious Disease Control, Solna, Sweden; [4]Orebro Univ. Hospital, Orebro, Sweden*

TP 564 **A Targeted Comparative Proteomic Approach for Identification of Phosphorylation Dependant Protein-Protein Interactions of α-Synuclein**; Melinda A. McFarland[1]; Christopher E. Ellis[1]; Sanford P. Markey[1]; Robert L. Nussbaum[2]; *[1]National Institute of Mental Health, NIH, Bethesda, MD; [2]Dept of Medicine, UCSF, San Francisco, CA*

TP 565 **Quantitation of Dystrophin Protein in Muscle Biopsies from Patients with Muscular Dystrophy using Isotope-Coded Affinity Tag Analysis**; Jung Yoon; Jerry Mendell; Paul T Martin; *Columbus Children's Research Institute, Columbus, OH*

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TP 566 **Microfabricated Monolithic RP Column Arrays as the Fraction Collector for Offline First Dimension SCX Separation in 2D-LC-ESI-MS Proteomic Analysis**; Jian Liu; Daniel R. Knapp; *Medical University of South Carolina, Charleston, SC*

TP 567 **Optimization of LC/MS/MS and LC/LC/MS/MS for Plasma Proteomics**; Yan Wu; Carol E. Parker; Xian Chen; *University of North Carolina, Chapel Hill, NC*

TP 568 **The Detection of Protein Toxins in Food Matrices using Immunoaffinity in Combination with Mass Spectrometry**; John H. Callahan; Fenhong Song; Kevin Shefcheck; *FDA/CFSAN, College Park, MD*

TP 569 **Rapid and Quantitative Proteomic Analysis of Human Skin Biopsy Samples**; Erika P Parkinson[1]; Paul J Skipp[1]; Maja Aleksic[2]; Daniel J Scott[2]; Geraldine Clough[3]; C David O'Connor[1]; *[1]Univ of Southampton, Southampton, UK; [2]Unilever, Bedford, UK; [3]School of Medicine, Univ of Southampton, Southampton, UK*

TP 570 **Recognizing Quaternary Structure during Global Proteomics**; Xiuping Liu; Fred Regnier; Qiang Gao; Wen-chu Yang; *Purdue University, West Lafayette, IN*

TP 571 **Utility of an Absolute Quantitation Method for Optimizing On-Column Protein Load in Qualitative and Quantitative Proteomics**; Craig A. Dorschel[1]; Jeffrey C. Silva[1]; Johannes P.C. Vissers[2]; Scott J. Geromanos[1]; Krisha Panchalingam[3]; Christopher Utzat[3]; James L. Sherley[3]; *[1]Waters Corporation, Milford, MA; [2]Waters Corporation, Manchester, UK; [3]Massachusetts Institute of Technology, Cambridge, MA*

TP 572 **Rapid Polypeptide Identification in Complex Biological Samples through Integration of Electrophoretic Fractionation, Reversed-Phase Capture and MALDI Analysis**; M. Lisa Manier; Hans-R. Aerni; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*

TP 573 **Robust 2D HPLC Protocols for Functional Proteomics Sample Preparation**; Kerry Nugent; Eric Kemp; Lori Ann Upton; *Michrom Bioresources, Inc., Auburn, CA*

TP 574 **Using Polymeric Reverse Micelles to Obtain Highly Selective Fractionation of Peptides from Protein Digests for MALDI-MS Analysis**; Marianny Y. Combariza; Elamprakash Savariar; Sankaran Thayumanavan; Richard W. Vachet; *Chemistry Department, University of Massachusetts, Amherst, MA*

TP 575 **A Rapid and Simple Method for Identification of Metallothionein Isoforms in Cultured Human Prostate Cells by MALDI-TOF/TOF Mass Spectrometry**; Rongying Wang; Donald A. Sens; Amy Albrecht; Scott Garrett; Seema Somji; Mary Ann Sens; Xiaoning Lu; *University of North Dakota, Grand Forks, ND*

TP 576 **Protein Concentration and Tryptic Digestion at a pH Junction of Discontinuous Buffers using Capillary Electrophoresis for MALDI-MS Analysis**; Chandra Nesbitt; Ken K.-C. Yeung; *University of Western Ontario, London, Canada*

TP 577 **Enabling SDS-Assisted Proteome Analysis by Tandem Column HPLC for Peptide Purification**; Nan Wang; Liang Li; *Department of Chemistry,University of Alberta, Edmonton, Canada*

TP 578 **Detection, Confirmation, and Quantification of Allergens in Chocolate using MALDI and LC/MS/MS**; Fenhong Song; Kevin Shefcheck; John H. Callahan; *FDA/CFSAN, College Park, MD*

TP 579 **Characterization of Liquid Chromatography Strategies to Separate Intact Proteins and its Application to Top-Down Proteomics**; Timothy S Collier; David C Muddiman; D. Keith Williams, Jr; Adam M Hawkridge; G. Ryan Georgianna; Gary A Payne; *North Carolina State University, Raleigh, NC*

TP 580 **Specific Isolation of Cys-containing Peptides from Yeast Cell Lysates;** Mark J. Raftery; *Cytokine Research Unit, Kensington, Australia*

TP 581 **Do You Think SCX Mode is the Most Effective Ways as 1st Dimension of 2D-LC-MS/MS Analysis for Whole Tissue Proteomics?**; Tatsuji Nakamura; Yoshiya Oda; Toshitaka Sato; Junro Kuromitsu; *Eisai Co., Ltd., Tsukuba, Japan*

TP 582 **A Three-Dimensional Proteomic Approach for the Study of Different Regions of the Rat Brain**; Kristi S. Rau[1]; Annette E. Fleckenstein[2]; Christina M. Markl[1]; Michael H. Simonian[1]; *[1]Beckman Coulter, Inc., Fullerton, CA; [2]University of Utah, Salt Lake City, UT*

TP 583 **Measuring Neuropeptides in the Brain: Postmortem Degradation of Endogenous Peptides**; Michael L Heien; Suresh Annangudi; Nathan Hatcher; Jonathan Sweedler; *University of Illinois, Urbana, IL*

POSTER SPACE

7:30 – 8:00 am..... All Wednesday posters should be set
10:15 am – 2:30 pm..... Wednesday poster authors should be present
11:45 am – 12:15 pm..... Lunch break for odd-numbered posters
12:15 – 12:45 pm ..... Lunch break for even-numbered posters
7:30 – 8:00 pm .....Remove all Wednesday posters

AMBIENT IONIZATION II
004 - 022

WP 004 **Desorption Electrospray Ionization - Mass Spectrometry (DESI-MS): Analysis of Trace Organic Contaminants on Glass Substrates Intended for Optical Applications**; Rob Burkhalter; Liepin Huang; Masato Tomita; Krishna Nath; *Corning, Inc., Corning, NY*

WP 005 **Effect of Spray Plume Characteristics on Desorption and Ionization in DESI**; Sofie P. Pasilis; Vilmos Kertesz; Gary J. Van Berkel; *Oak Ridge National Laboratory, Oak Ridge , TN*

WP 006 **Mass Spectral Analysis of Vitamin D2 and D3 using Desorption Electrospray Ionization**; Dina Justes[1]; George Haas[2]; Gianluca Dimartino[2]; Carol Zrybko[2]; R. Graham Cooks[1]; *[1]Purdue University, West Lafayette, IN; [2]Kraft Foods Inc., Glenview, IL*

WP 007 **On-Probe Pyrolysis DESI-MS and Atmospheric Pressure Thermal Desorption-ESI-MS for the Analysis of Non-Volatile and Volatile Pyrolysis Products**; Franco Basile[1]; Shaofeng Zhang[1]; Yong-Seung Shin[1]; Richard Mayer[2]; *[1]University of Wyoming, Laramie, WY; [2]USDA-ABDRL, U. of Wyoming, Laramie, WY*

WP 008 **Amino-Acids Analysis by Desorption Electrospray Ionization by a Quadrupolar Tandem Mass Spectrometer;** Gaetano Corso; Giuseppe Paglia; Daniela Garofalo; Oceania D'Apolito; *Università di Foggia, Foggia, Italy*

WP 009 **Rapid Spatial Mapping of Chemicals Dispersed Across Surfaces using an Autosampler /DART/TOFMS**; Andrew H. Grange; G. Wayne Sovocool; *U.S. EPA, ORD, Environmental Sciences Division, Las Vegas, NV*

WP 010 **Selective Detection of Oligosaccharides using Reactive Desorption Electrospray Ionization (DESI)**; Hao Chen; Dina R. Justes; R. Graham Cooks; *Purdue University, West Lafayette, IN*

WP 011 **Reactive Desorption Electrospray Ionization for the Analysis of Cyclodextrin Host:Guest Inclusion Complexes**; Joanna E. Barbara; Ronald K. Castellano; John R. Eyler; David H. Powell; *University of Florida, Gainesville, FL*

WP 012 **Mechanistic Studies of Surface Effects by Desorption Electrospray Ionization;** Santosh Soparawalla; Andre Venter; Graham Cooks; *Purdue University Dept. of Chemistry, West Lafayette, IN*

WP 013 **New Enclosed DESI Source for Improved Safety and Ion Transport and Reduced Signal Dependence on Operating Conditions**; Andre Venter; Santosh Soparwalla; R.Graham Cooks; *Purdue University, West Lafayette, IN*

WP 014 **Surface Analysis and Chemical Imaging with DESI: Technology-Related Challenges and Solutions**; Vilmos Kertesz; Gary J. Van Berkel; Sofie P. Pasilis; *Oak Ridge National Lab, Oak Ridge, TN*

WP 015 **Performance Study of an Extended Length Particle Discriminator Interface for Desorption Electrospray Ionization**; Gary J. Van Berkel[1]; Vilmos Vilmos Kertesz[1]; Bradley B. Schneider[2]; Thomas R. Covey[2]; *[1]Oak Ridge National Laboratory, Oak Ridge, TN; [2]MDS SCIEX, Concord, ON, Canada*

WP 016 **Rapid *in-vivo* Analysis of Biofilms by DESI**; Nari Talaty; Yishu Song; Yi-ju Hsieh; Kirill Datsenko; Barry L. Wanner; R. Graham Cooks; *Purdue University, West Lafayette, IN*

WP 017 ***In-vivo* Mass Spectrometry – Application of Desorption Electrospray Ionization in Surgical Environment**; Zoltan Takats[1]; Reka Skoumal[3]; Maria Katona[2]; Blanka Toth[1]; Miklos Toth[3]; *[1]Semmelweis University, Budapest, Hungary; [2]National Medical Center, Budapest, Hungary; [3]Gottsegen National Institute of Cardiology, Budapest, Hungary*

WP 018 **Analysis of Thin Layer Chromatography Plates with Direct Analysis in Real Time Mass Spectrometry**; Julia L. Rummel; John R. Eyler; David H. Powell; *University of Florida, Gainesville, FL*

WP 019 **New Development of Thin Layer Chromatography / Time-of-flight Mass Spectrometry with DART**; Akihiko Kusai[1]; Kiyotaka Konuma[1]; Mai Kobayashi[1];

David Vargas[2]; [1]*JEOL Ltd., Akishima, Japan;* [2]*JEOL USA, Inc., Peabody, MA*

WP 020 **Reactive Fused Droplet Electrospray Ionization Mass Spectrometry**; Marcos N Eberlin; Yuri Eberlim Corilo; Rodrigo Ramos Catharino; Patricia Verardi Abdelnur; *State University of Campinas - UNICAMP, Campinas, SP, Brazil*

WP 021 **Desorption Electrospray Ionization Mass Spectrometry for Rapid and Direct Detection of Low Vapor Pressure Chemical and Biological Threat Agent Simulants**; Nathan A. Hagan; Miquel D. Antoine; Timothy J. Cornish; Timothy P. Lippa; Alan F. Becknell; Plamen A. Demirev; *JHU Applied Physics Laboratory, Laurel, MD*

WP 022 **DESI-MS of Intact Bacteria: Application to Microorganism Profile-Based and Biomarker-Based Biodetection**; Yong-Seung Shin[1]; Richard Mayer[2]; Franco Basile[1]; [1]*University of Wyoming, Laramie, WY;* [2]*USDA -ABDRL U. of Wyoming, Laramie, WY*

IONIZATION MECHANISMS
023 - 035

WP 023 **Positive and Negative Ion Yields in Matrix-Assisted Laser Desorption Ionization Mass Spectrometry**; Maxim Dashtiev[1]; Esther Wäfler[1]; Michael Gorshkov[2]; Franz Hillenkamp[3]; Ullrich Roehling[3]; Renato Zenobi[1]; [1]*ETH Zurich, Zurich, Switzerland;* [2]*Institute for Energy Problems of Chemical Physics, Moscow, Russia;* [3]*Institute of Medical Physics and Biophysics, Münster, Germany*

WP 024 **Investigating Fragmentation Mechanisms of Atmospheric Pressure Chemical Ionization Using a Homebuilt Portable Rectilinear Ion Trap Mass Spectrometer**; Nathaniel Sanders; Christopher C. Mulligan; Nari Talaty; R. Graham Cooks; *Purdue University, West Lafayette, IN*

WP 025 **Dissecting the Role of Matrix Functional Groups for a High-performance MALDI Matrix**; Thorsten Jaskolla; Michael Karas; *JWG University Frankfurt, Frankfurt / Main, Germany*

WP 026 **Internal Energy of Ions Desorbed from Laser Desorption using Carbon Nanotubes and Applications**; Christelle Kotanian[1]; Sandra Alves[1]; Denis Lesage[1]; Daniel Reynes[2]; Fabrice Modeste[2]; Jean Claude Tabet[1]; [1]*Université Pierre et Marie Curie, Paris, France;* [2]*Centre d'Etudes du Bouchet, Vert le Petit, France*

WP 027 **Optimization of a Germanium Nanodot Chip as an Ionization Platform for Matrix-Free Soft Laser Desorption/Ionization-Mass Spectrometry**; Atsushi Nemoto; Hiroaki Sato; Atsushi Yamamoto; Masaki Torimura; Hiroaki Tao; *Natl. Inst. Adv. Ind. Sci. Technol. (AIST), Tsuskuba, Japan*

WP 028 **Resonant Electron Capture by Some Amino Acid Esters**; Yury V Vasilev; Benjamin J. Figard; Douglas F. Barofsky; Max L. Deinzer; *Oregon State University, Corvallis, Or*

WP 029 **A Density Functional Investigation on the Secondary Processes in Matrix-assisted Laser Desorption Ionization**; Francesco L Brancia[1]; Mauro Stener[2]; [1]*SRL, Manchester, United Kingdom;* [2]*University of Trieste, Trieste, Italy*

WP 030 **A Systematic Study on the Geometric Factors of Alumina Nanohole Arrays and Coating Metals for Surface-Assisted Laser Desorption/Ionization of Biomolecules**; Yoshinao Wada[1]; Takashi Yanagishita[2]; Hideki Masuda[3]; [1]*Osaka MCHRI & Osaka University, Izumi, Osaka, Japan;* [2]*Kanagawa Academy of Science and Technology, Sagamihara, Kanagawa, Japan;* [3]*Tokyo Metropolitan University, Hachioji, Tokyo, Japan*

WP 031 **A Mathematical Model to Interpret Electrochemical Potential and Current Maps in the Electrospray Capillary**; Boguslaw P. Pozniak; Richard B. Cole; *University of New Orleans, New Orleans, LA*

WP 032 **Verification of Mid-Infrared Matrix-Assisted Desorption/Ionization for Direct Protein Analysis**; Sachiko Suzuki; Izuru Sato; Kunio Awazu; *Osaka University, Osaka, Japan*

WP 033 **Electrochemical/Electrospray-Mass Spectrometric Studies of the Oxidation of Cyanide at Platinum Electrode**; Tan Guo[1]; Michael Arndt[1]; William Sonzogni[1]; Andreas Illies[2]; [1]*Wisconsin State Lab of Hygiene, Univ.of Wisconsin, Madison, WI;* [2]*Department of Chemistry, Auburn University, Auburn, GA*

WP 034 **Internal Energy Distributions of Ions Produced by a Source Based on Penning Ionization**; Christelle Kotanian; Denis Lesage; Sandra Alves; Jean-Claude Tabet; *Université Pierre et Marie Curie Paris6, Paris, France*

WP 035 **Internal Energy Distribution of Ions Produced in DESI and the Influence of Source Parameters on Internal Energy**; Jonell Smith; Marcela Nefliu; Andre Venter; R. Graham Cooks; *Purdue University, West Lafayette, IN*

MALDI SAMPLE PREPARATION I
036 - 051

WP 036 **Solvent-free MALDI Mass Spectrometry for the Analysis of Metallosupramolecular Complexes**; Yun Ling; Marshall Lapawa; Mark MacLachlan; *University of British Columbia, Vancouver, Canada*

WP 037 **New Matrix-free Substrates for Laser Desorption/Ionization Mass Spectrometry: Silica Modified Stainless-Steel**; Joeng Heon Lee[2]; Mi Young Ha[2]; Yangsun Kim[1]; [1]*Hudson surface Technology, Newark, NJ;* [2]*ASTA, Suwon, Korea*

WP 038 **MALDI Target Plates Utilizing Micro-Well Technology**; Bruce N. Laprade[1]; Kevin Owens[2]; Sharon R. Mrotek[1]; [1]*Burle Electro Optics, Sturbridge, MA;* [2]*Department of Chemistry, Drexel University, Philadelphia, PA*

WP 039 **Laser Desorption/Ionization from Pt Coated Anodic Porous Alumina Surface;** Takafumi Sato[1]; Takaya Satoh[1]; Tim Hawkins[2]; Yoshinao Wada[3]; Hideki Masuda[4]; Takashi Yanagishita[4]; Jun Tamura[1]; [1]*JEOL Ltd., Tokyo, Japan;* [2]*JEOL USA Inc., Peabody, MA;* [3]*Osaka Medical Center for Maternal and Child Health, Osaka, Japan;* [4]*Kanagawa Academy of Science and Technology, Kawasaki, Japan*

WP 040 **Two Needles, One Sample: Demonstration of a Dual Spray Electrospray Deposition System**; William J. Erb; Wolfgang Nadler; Kevin G. Owens; *Drexel University, Philadelphia, PA*

WP 041 **One-Way Diamond-Like-Carbon (DLC) MALDI Target for Multi Purpose Applications**; Peter Hausberger[1]; Wolfgang Winkler[2]; Christian Huck[3]; Muhammad Nadjam-Ul-Haq[3]; Matthias Rainer[3]; Günter Allmaier[2]; Harald Kraushaar[1]; Günther Bonn[3]; [1]*Sony DADC, Anif, Austria;* [2]*Vienna University of Technology, Vienna, Austria;* [3]*Leopold Franzens University of Innsbruck, Innsbruck, Austria*

POSTER SPACE

WP 042 **Effects of Matrix Crystal Size on Ion Formation in Matrix-Assisted Laser Desorption/Ionization**; Thorsten Jaskolla[1]; Michael Karas[1]; Kerstin Steinert[2]; Udo Roth[2]; Christoph Menzel[2]; Karsten Reihs[3]; *[1]Institute of Pharmaceutical Chemistry, Frankfurt am Main, Germany; [2]Qiagen GmbH, Hilden, Germany; [3]AMF GmbH, Köln, Germany*

WP 043 **MALDI Mass Spectrometry of Saponins from Quillaja Saponaria**; Xiaorong (Sharon) Wei; Richard J. Porambo; Steven L. Cohen; *Merck Research Laboratories, West Point, PA*

WP 044 **Monolayer Enhanced Gold Nanoparticles for Laser Desorption/Ionization Mass Spectrometry**; Edward T. Castellana; Russell H. David; *Texas A&M University, College Station, TX*

WP 045 **Comparison of MALDI Matrices for Peptidomic Profiling of Cell Culture Samples**; Kevin McCowen; Steven Taylor; Soumitra Ghosh; *Amylin Pharmaceuticals, Inc., San Diego , CA*

WP 046 **Comparison of Recrystallised Matrix Preparation Methodologies Used for Peptide Detection in MALDI-TOFMS;** D J Evason; V C Parr; S P Thompson; M D Mills; A J Polley; *SAI, Manchester, United Kingdom*

WP 047 **MALDI-MS Sample Preparation – When Change is Bad;** Steven L. Cohen; *Merck Research Laboratories, West Point, PA*

WP 048 **Ca^{2+}-Dependent Deuterium Exchange Properties of EF-hand Calcium-binding Proteins Calmodulin and S100 are Useful to Monitor MALDI HDX Efficiency**; Peter L. Pingerelli; Victor V. Ozols; Carly R. Anderson; Richard S. Burns; *Barrow Neurological Institute, Phoenix, AZ*

WP 049 **Investigating Time and Mass Effects in Solvent-Free MALDI Sample Preparation**; Scott D. Hanton; James R. Stets; *Air Products & Chemicals, Inc, Allentown, PA*

WP 050 **The Effects of Sample Preparation for Nanoparticulate Matrices on Mass Resolution in LDI-TOFMS**; Kate Stumpo; David H. Russell; *Texas A&M University, College Station, TX*

WP 051 **A Comparison of Matrix-Free LDI-MS using Nanostructured Targets and MALDI-MS for Small Molecule Analysis**; Sergei Dikler[1]; Catherine Stacey[1]; Veeral Hardev[2]; Hugh Daniels[2]; *[1]Bruker Daltonics, Inc., Billerica, MA; [2]Nanosys, Inc., Palo Alto, CA*

IMAGING: INSTRUMENTATION
052 - 080

WP 052 **Automated Aerosol Reagent Deposition on Tissue for *in situ* MALDI Imaging Analysis**; Hans-Rudolf Aerni[1]; Martin Schuerenberg[2]; Richard M. Caprioli[1]; *[1]Vanderbilt University, Nashville, TN; [2]Bruker Daltonik GmbH, Bremen, Germany*

WP 053 **Imaging Ion Mobility-Mass Spectrometry: Advantages, Challenges, and Future Prospects**; John A. Mclean; Whitney B. Ridenour; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*

WP 054 **Use of Acoustic Droplet Ejection to Prepare Biochemical Reactions on Tissue Sections for MALDI Imaging Mass Spectrometry**; Siobhan C. Pickett[1]; Jean Shieh[1]; Lisa Manier[2]; M. Reid Groseclose[2]; Michelle L. Reyzer[2]; Pierre Chaurand[2]; Richard M. Caprioli[2]; *[1]Labcyte Inc., Sunnyvale , CA; [2]Vanderbilt University, Nashville, TN*

WP 055 **7.87 eV Laser Desorption Postionization Mass Spectrometry of Adsorbed and Covalently Bound Bisphenol A Diglycidyl Methacrylate**; Luke Hanley; Manshui Zhou; Chunping Wu; Artem Akhmetov; Praneeth D. Edirisinghe; James L. Drummond; *University of Illinois at Chicago, Chicago, IL*

WP 056 **High-Fidelity Imaging Mass Spectrometry: Using the Resolving Power of MALDI-FTMS to Increase the Number of Ion Images at Each m/z**; Dale S. Cornett; Erin H. Seeley; M. Reid Groseclose; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*

WP 057 **Improved Spatial Resolution for Imaging MALDI MS through Homogeneous Matrix**; M. Reid Groseclose; Richard M. Caprioli; *Vanderbilt University Medical Center, Nashville, TN*

WP 058 **Imaging MALDI Mass Spectrometry of Sphingolipids Using an Oscillating Capillary Nebulizer (OCN) Matrix Application System**; Yanfeng Chen; Ying Liu; Alfred H. Merrill, Jr; M. Cameron Sullards; *Georgia Institute of Technology, Atlanta, GA*

WP 059 **Improving Peptides *de novo* Sequencing for MALDI-MSI by *in situ* N-terminal Derivation**; Julien Franck; Mohamed El-Ayed; Jonathan Stauber; Maxence Wisztorski; Olivia Jardin-Mathé; Isabelle Fournier; Michel Salzet; *FRE-CNRS 2933, University of Lille I, Villeneuve d'Ascq, France*

WP 060 **Development of Microscope AP-MALDI-Q-FTICR-MS**; Katsutoshi Takahashi; *Nat'l Institute Advan. Indus. Sci Tech, Tokyo, Japan*

WP 061 **TArgeted Multiplex Mass Spectrometric IMaging (TAMSIM) of Tissue Sections**; Gwendoline Thiery[1]; Mikhail S. Shchepinov[2]; Edwin M. Southern[3]; Benoit Terris[4]; Ivo G. Gut[1]; *[1]CNG, Evry, France; [2]Shchepinov Consulting, Oxford, UK; [3]OGT, Yarnton, UK; [4]Hopital Cochin, Paris, France*

WP 062 **Elucidation of Closely-Spaced Protonated Neuropeptides Directly Off Tissue by Enhanced Resolution MALDI ionization with Orbitrap Detection**; Maria C. Prieto Conaway[13]; Peter Verhaert[2]; Viatcheslav Kovtoun[13]; Huy Bui[13]; Nick Izgarian[13]; Thomas Moehring[13]; Kerstin Strupat[13]; *[1]Thermo Fisher Scientific, San Jose, CA; [2]Delft University of Technology, Biotechnology Dept, Delft, Netherlands; [3]Thermo Fisher Scientific, Bremen, Germany*

WP 063 **Multiplexing MALDI MSI using Dynamic Pixel Imaging: MSI Analysis of Diazepam and its Two Major Metabolites in Rat Liver**; Donald L McKenzie[1]; Andrew James[2]; *[1]Pfizer Global Research & Development, Ann Arbor, MI; [2]Applied Biosystems/MDS SCIEX, Ontario, Canda*

WP 064 **Chemical Imaging Mass Spectrometry by Coupling Laser Ablation Sampling with a Unique Atmospheric Pressure Glow Discharge Ionization Source**; Steven Ray; Francisco Andrade; Gary M. Hieftje; *Indiana University, Bloomington, IN*

WP 065 **A New Sensor-Controlled Preparation Technique for MALDI Tissue Imaging**; Martin Schuerenberg; Christine Luebbert; Rolf Mueller; Soeren Deininger; *Bruker Daltonik GmbH, Bremen, Germany*

WP 066 **Use of Masks in MALDI-MSI: an Easy Tool for Increasing Spatial Resolution of Images by Decreasing Irradiated Area**; Maxence Wisztorski[1]; Nicolas Verplanck[2]; Vincent Thomy[2]; Jonathan Stauber[1]; Jean-Christophe Camart[2]; Michel Salzet[1]; Isabelle Fournier[1]; *[1]MALDI Imaging Team, FRE CNRS*

2933, USTL, Villeneuve d'Ascq, France; [2]IEMN, UMR CNRS-8520, Cité Scientifique, Villeneuve d'Ascq, France

WP 067 **Development of a Multi-Turn TOF-SIMS System with a Femtosecond Laser for Post-Ionization**; Kousuke Kumondai[1]; Ryotaro Todokoro[1]; Ryo Mibuka[2]; Shinji Kurihara[2]; Kiichiro Uchino[2]; Hisayoshi Yurimoto[3]; Morio Ishihara[1]; *[1]Osaka University, Osaka, Japan; [2]Kyushu University, Fukuoka, Japan; [3]Hokkaido University, Hokkaido, Japan*

WP 068 **Nanoparticle-assisted Laser Desorption/Ionization for Ultra Resolution Imaging Mass Spectrometry**; Shu Taira[1]; Yuki Sugiura[1]; Shinji Moritake[2]; Shuichi Shimma[3]; Yuko Ichiyanagi[2]; Mitsutoshi Setou[3]; *[1]Mitsubishi Kagaku Institute of Life Sciences, Machida city, Japan; [2]Yokohama National University, Yokohama, Japan; [3]National Institute of Physiological Sciences, Okazaki, Japan*

WP 069 **Direct Drug Imaging in Tissue Sections Utilizing MS/MS on a MALDI Quadrupole Orthogonal Acceleration TOF Mass Spectrometer**; Keith Compson[1]; Marten Snel[1]; Emmanuelle Claude[1]; György Marko-Varga[2]; Thomas Fehniger[2]; Kerstin Kenne[2]; Lena Gustavsson[2]; Siobhan Pickett[3]; Anna Nilsson[4]; Per E. Andren[4]; *[1]Waters Corporation, Manchester, United Kingdom; [2]AstraZeneca, Lund, Sweden; [3]Labcyte, Sunnyvale, CA; [4]Lab. for Biol. & Med. MS, Uppsala University, Uppsala, Sweden*

WP 070 **Investigation of Analyte Extraction and Migration in Tissue Imaging by MALDI-MS**; Daniel P. Magparangalan[1]; Dodge L. Baluya[1]; Dieter M. Drexler[2]; Richard A. Yost[1]; *[1]University of Florida, Gainesville, FL; [2]Bristol-Myers Squibb Company, Wallingford, CT*

WP 071 **LDI Imaging Mass Spectrometry via Molecular Interaction and Photo Labile Tags**; Junhai Yang[1]; Pierre Chaurand[1]; Jeremy Norris[2]; Ned Porter[1]; Richard Caprioli[1]; *[1]Vanderbilt University, Nashville, TN; [2]Protein Discovery, Inc., Knoxville, TN*

WP 072 **MALDI MRM for Imaging of Targeted Proteins**; Derek Smith[1]; Angela Jackson[1]; Ashley Cabecinha[1]; Ryan Danell[2]; Christoph H. Borchers[1]; *[1]University of Victoria-Genome BC Proteomics Centre, Victoria, Canada; [2]Danell Consulting, Greenville, NC*

WP 073 **Advanced Data Analysis for Hierarchical Clustering of Imaging Mass Spectrometry Datasets;** Liam Mcdonnell[1]; Alexander Broersen[2]; Leendert A Klerk[1]; Robert van Liere[2]; Ron M A Heeren[1]; *[1]FOM Institute-AMOLF, Amsterdam, Netherlands; [2]Centrum voor Wiskunde en Informatica, Amsterdam, Netherlands*

WP 074 **Metabolomic Profiling in Wheat Grains Using Automated Sample Preparation**; Alan Barnes[1]; Caroline J. Earnshaw[2]; Sally J. Atkinson[2]; Michael Burrell[3]; Malcolm R. Clench[2]; *[1]Shimadzu Biotech, Manchester, United Kingdom; [2]Biomedical Research Centre, Sheffield Hallam Uni., Sheffield, UK; [3]Department of Plant and Animal Sciences, Sheffield University, UK*

WP 075 **Desorption Electrospray Ionization (DESI) Mass Spectrometry and Tandem Mass Spectrometry (MS/MS) of Lipids: Ionization, Adduct Formation and Fragmentation**; Nicholas E Manicke[1]; Justin M Wiseman[2]; Demian R Ifa[1]; Thomas A Blake[1]; R Graham Cooks[1]; *[1]Purdue University, West Lafayette, IN; [2]Prosolia, Inc., Indianapolis, IN*

WP 076 **MALDI Tissue Imaging for Classification of Breast Cancer Sections**; Soeren-Oliver Deininger[1]; Martin Schürenberg[1]; Christine Luebbert[1]; Arne Fuetterer[1]; Marc Gerhard[1]; Jane M. Kowalski[1]; Detlev Suckau[1]; Axel Walch[2]; *[1]Bruker Daltonics, Bremen, Germany; [2]GSF-Institut für Pathologie, Neuherberg, Germany*

WP 077 **Direct Profiling and MS Imaging of Small Molecules (Carbohydrates/Acids/Phenolic Compounds) from Fruits by Colloidal Graphite-Assisted Laser Desorption/Ionization (GALDI) MS**; Hui Zhang; Sangwon Cha; Edward S. Yeung; *Iowa State University, Ames, IA*

WP 078 **Independent Component Analysis as a Method for the Detection of Biochemical Trends in Tissue via Imaging Mass Spectrometry**; Raf Van de Plas; Bart De Moor; Etienne Waelkens; *K.U.Leuven, Leuven, Belgium*

WP 079 **Ambient Molecular Imaging of Fungus and Animal Tissues by Electrospray-assisted Laser Desorption Ionization (ELDI) Mass Spectrometry**; Min-Zong Huang; Jentaie Shiea; *National Sun Yat-Sen University, Kaohsiung, Taiwan*

WP 080 **Perspectives for Quantitative Tissue Imaging by Intermediate-Pressure MALDI/Linear Ion Trap Tandem Mass Spectrometry**; Richard A. Yost; Timothy J. Garrett; Daniel P. Magparangalan; Dodge L. Baluya; Rachelle R. Landgraf; Michael P. Napolitano; *University of Florida, Gainesville, FL*

INSTRUMENTATION: QUADRUPOLES & ION TRAPS 1
081 - 096

WP 081 **Tandem Mass Spectrometry in a LTQ Orbitrap Mass Spectrometer using Multiple Fills**; Eduard Denisov; Oliver Lange; Alexander Makarov; Kerstin Strupat; Vlad Zabrouskov; Jens Griep-Raming; Stevan R. Horning; *Thermo Fisher Scientific (Bremen) GmbH, Bremen, Germany*

WP 082 **Electrodynamic Ion-Funnel as a Trap: Performance and Initial Results**; Yehia Ibrahim; Mikhail Belov; Richard Smith; *Pacific Northwest National Laboratory, Richland, WA*

WP 083 **Phase-Enhanced Selective Ion Ejection in the Orbitrap Mass Analyzer**; Richard H. Perry; Qizhi Hu; Robert J. Noll; Liang Gao; Isabella Zhang; R. Graham Cooks; *Purdue University, West Lafayette, IN*

WP 084 **ECD in a Linear RF-Field without Collision Gas**; Hong Ji; Valery G. Voinov; Max L. Deinzer; Douglas F. Barofsky; *Oregon State University, Corvallis, OR*

WP 085 **Sequence Characterization of Intact Proteins by Consecutive Ion/Ion Reactions of ETD and PTR**; Ralf Hartmer; Markus Lubeck; Carsten Baessmann; Andreas Brekenfeld; *Bruker Daltronik, Bremen, Germany*

WP 086 **Axially-resonant Excitation Linear Ion Trap (AREX LIT) as a Dissociation Device**; Yuichiro Hashimoto[1]; Hideki Hasegawa[1]; Masuyuki Sugiyama[1]; Hiroyuki Satake[1]; Takashi Baba[1]; Izumi Waki[1]; Toshiyuki Yokosuka[2]; *[1]Hitachi, Ltd, Central Research Lab, Kokubunji, Tokyo, Japan; [2]Hitachi, Ltd, Hitachi Research Lab, Hitachi, Ibaraki, Japan*

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Malkas[3]; Milos V. Novotny[1]; *[1]National Center for Glycomics and Glycoproteomics, Bloomington, IN; [2]Department of Medicine, IU School of Medicine, Indianapolis, IN; [3]Indiana University Cancer Center, Indianapolis, IN; [4]Breast Cancer Center, Greater Baltimore MD Center, Baltimore, MD*

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WP 378 **Quantitation of Amine-Containing Metabolites in Human Urine by Stable-isotope Dimethyl Labeling Combined with LC-FTICR-MS**; Kevin Kun Guo; Cheng Jie Ji; Liang Li; *University of Alberta, Chemistry Dept., Edmonton, CANADA*

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WP 380 **Analysis of CYP1A1/1B1-Independent Benzo[a]pyrene DNA-Adduct Formation in Human Lung Cancer Cells by LC-MS**; Stacy Gelhaus; Trevor M. Penning; Ian A. Blair; *University of Pennsylvania, Philadelphia, PA*

WP 381 **Simulation of Oxidative Cytochrome P450 Metabolism Reactions of Amodiaquin by Means of Electrochemistry / Liquid Chromatography / Mass Spectrometry (EC/LC/MS)**; Sebastian Goetz[1]; Wiebke Lohmann[2]; Gabriela Zurek[1]; Andreas Germanus[1]; Uwe Karst[2]; *[1]Bruker Daltonik GmbH, Bremen, Germany; [2]University of Muenster, Muenster, Germany*

WP 382 **Rapid Metabolite identification using Advanced Algorithms for Mass Spectral Interpretation**; Mark A. Bayliss; Margaret Antler; Graham McGibbon; Vitaly Lashin; *ACD/Labs, Toronto, Canada*

WP 383 **Identification of GSH Conjugates of Isoliquiritigenin, a Chemoprevention Agent, in Human Hepatocytes and Rat Liver using Liquid Chromatography-Tandem Mass Spectrometry**; Jian Guo[1]; Ang Liu[1]; John M. Pezzuto[2]; Richard B. van Breemen[1]; *[1]University of Illinois College of Pharmacy, Chicago, IL; [2]University of Hawaii at Hilo College of Pharmacy, Hilo, HI*

WP 384 **Are Catechol Estrogen DNA Adducts Biomarkers for Breast Cancer?**; Qiang Zhang; Amanda J. Becker; Rebecca, L. Aft; Cynthia X. Ma; Michael L. Gross; *Washingtion University in St. Louis, St. Louis, MO*

WP 385 **Bioactivation of 4,4'-Methylenedianiline to Biliary Intermediates in Rats by LC-ES-MS^{n} and NMR Spectroscopy**; Kan Chen[1]; Tammy R. Dugas[2]; Richard B. Cole[1]; *[1]University of New Orleans, New Orleans, LA; [2]Louisiana State University HSC - Shreveport, Shreveport, LA*

WP 386 **Search for Biomarkers of Neurotoxic Shellfish Poisoning in Humans by LC-MS/MS**; Ann Abraham[1]; Steven M. Plakas[1]; Leanne Flewelling[2]; Kathleen R. El Said[1]; Edward L.E. Jester[1]; Hudson R. Granade[1]; Robert W. Dickey[1]; *[1]FDA, Dauphin Island, AL; [2]Fish and Wildlife Research Institute, St. Petersburg, FL*

WP 387 **Metabolites of Xanthohumol, Isoxanthohumol and 8-Prenylnaringenin in Urine of Women Receiving Hop Extracts**; Jinghu Li[1]; Dejan Nikolic[1]; Sam Possemiers[2]; Selin Bolca[2]; Arne Heyerick[2]; Denis De Keukeleire[2]; Matthew Main[1]; Guido Pauli[1]; Richard B. van Breemen[1]; *[1]University of Illinois College of Pharmacy, Chicago, IL; [2]Ghent University-UGent, Gent, Belgium*

WP 388 ***In vivo* Human Metabolites of Flavonols and Flavanones**; Barry D Davis[1]; Paul A Kroon[2]; Jennifer S Brodbelt[1]; *[1]The University of Texas at Austin, Austin, TX; [2]The Institute of Food Research, Norwich, United Kingdom*

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WP 390 **Detailed Investigation of the Fragmentation of Aminopyridinyl-Sulfanyl-Imidazole-Based MAPKinase Inhibitors using Accurate MS(n) and Isotopic Pattern data**; Holger Scheible[1]; Ilmari Krebs[2]; Sebastian Goetz[2]; Gabriela Zurek[2]; Wolfgang Albrecht[3]; Christoph Gleiter[1]; Stefan Laufer[1]; Bernd Kammerer[1]; *[1]University of Tuebingen, Tuebingen, Germany; [2]Bruker*

Daltonik GmbH, Bremen, Germany; [3]Merckle GmbH, Ulm, Germany

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WP 392 **Generic Dealkylation: A Tool for Increasing the Hit-Rate of Metabolite Identification, and Customizing Mass Defect Filters**; Russell J Mortishire-Smith[1]; Alastair Hill[3]; Jose M Castro-Perez[2]; *[1]Johnson & Johnson PR&D, B-2340 Beerse, Belgium; [2]Waters, Boston, MA; [3]dotmatics, Bishops Stortford, UK*

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WP 395 **Caco-2 cell Permeabilities of Amines and Organic Acids in Black Cohosh (*Cimicifuga racemosa*) Dietary Supplements**; Soyoun Ahn; *University of Illinois, Chicago, IL*

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WP 401 **Screening and Identification of Potential Hepatoprotective Components with On-line Activity Assay and Synchronous ESI-MS**; Yeunghaw Ho[2]; Lin-Chiang Yang[1]; Hui-Fen Liao[1]; Kuo-Lung Ku[1]; *[1]National Chiayi University, Chiayi City, Taiwan; [2]National University of Kaohsiung, Kaohsiung City, Taiwan*

WP 402 **Heavy Metals and Toxic Element Detection in Herbal Medicines with Electrospray Time-Of-Flight Mass Spectrometry**; Shida Shen; Craig Whitehouse; *Analytica of Branford, Inc., Branford, CT*

WP 403 **Natural Products Chemistry and Proteomics: Tools and Strategies to Uncover Mechanism of Action of Anticancer Leads**; Joel R. Sevinsky; Yuka Nakanishi; Megan Rowland; David J. Kroll; Nicholas H. Oberlies; James L. Stephenson Jr; *Research Triangle Institute, Research Triangle Park, NC*

WP 404 **Rapid Picogram Determination of Ganoderic Acids from Diet in Animal Tissue Extracts**; Luke Gumaelius[1]; Jiri Adamec[1]; Dan Sliva[2]; *[1]purdue University, West Lafayette, IN; [2]Methodist Research Institute, Indianapolis , IN*

WP 405 **High Throughput Screening of Metabolic Pathway Intermediates of the Antimalarial drug Artemisinin in *Artemisia annua* using UPLC-LTQ-Orbitrap and MALDI-TOF**; Gideon Oudgenoeg; Maggie Smallwood; Ian Graham; Tony Larson; Dianna Bowles; *University of York, Heslington, York, United Kingdom*

WP 406 **ESI-MS Investigation of Model Chiral Bivalent Recognition Systems;** Manishkumar D. Joshi[1]; Frycak Petr[1]; Norbert M. Maier[2]; Wolfgang Linder[2]; Daniel W. Armstrong[1]; Kevin A. Schug[1]; *[1]UT- Arlington, Arlington, TX; [2]University of Vienna, Vienna, Austria*

WP 407 **Reactivity of Xanthohumol, a Prenylated Chalcone from Hops (*Humulus lupulus L.*), Toward Biological Nucleophiles**; Dejan Nikolic; Barbara Calamini; Yan Luo; Lucas R. Chadwick; Andrew Mesecar; Guido F Pauli; Judy L Bolton; Richard B. van Breemen; *University of Illinois College of Pharmacy, Chicago, IL*

WP 408 **Collision Energy Switching Hybrid Quadrupole Time of Flight Mass Spectrometry with Rapid Liquid Chromatography for Plant Metabolite Identification;** Emma Marsden-Edwards[13]; João Rodrigues[2]; Steve McDonald[13]; Joana Ferreira[4]; Amélia Rauter[4]; Jorge Justino [5]; Jane Thomas-Oates[6]; *[1]Waters Corporation, Manchester, United Kingdom; [2]University of Dundee, Dundee, United Kingdom; [3]Waters Corporation, Beverly, MA; [4]Universidade de Lisboa, Lisboa, Portugal; [5]Instituto Politécnico de Santarém, Santarém, Portugal; [6]University of York, York, United Kingdom*

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WP 411 **Selective Ionization of Lipid Classes using Au Matrices and MALDI-TOF/TOF MS**; Jeremy Post; Shelley Jackson; Amina Woods; *NIH/NIDA-IRP, Baltimore, MD*

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WP 412 **Collision Stimulated Release of Fatty Acids from Acylglycerides by Electrospray Ionisation Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; Nicholas W Proschogo; Gary D Willett; Ivan F Taylor; Naresh Kumar; *University of New South Wales, Sydney, Australia*

WP 413 **The Phospholipids and Fatty Acids of *Bdellovibrio bacteriovorus***; Larry Sallans; Nhu-An T. Nguyen; Stephen F. Macha; Edna S. Kaneshiro; *University of Cincinnati, Cincinnati, OH*

WP 414 **MALDI-TOF MS Analysis of Phospholipids: First Results of a Coupled TLC-MALDI System**; Beate Fuchs[1]; Jürgen Schiller[1]; Rosmarie Süß[1]; Martin Schürenberg[2]; Detlef Suckau[2]; *[1]University of Leipzig, Leipzig, Germany; [2]Bruker Daltonik GmbH, Bremen, Germany*

WP 415 **Enhanced Production of Cationized Molecular Ions by MALDI and Structural Elucidation of Triacylglyerols by PSD using a Graphite Matrix**; Douglas J.H Olson; E. Michael Giblin; David C. Taylor; Andrew R.S. Ross; *National Research Council, Saskatoon, CANADA*

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WP 419 **Quantitatite Analysis of Novel Phosphopilid in Rodent Brain by Nano Flow Normal Phase Liquid Chromatography with Tandem Mass Spectrometry;** Shinya Ito[1]; Takuji Nabetani[2]; Yoko Shinoda[2]; Yasuko Nagatsuka[2]; Yoshio Hirabayashi[2]; *[1]Hitachi High-Technologies, Tokyo, Japan; [2]RIKEN, Saitama, Japan*

WP 420 **Comparison of QTrap and Chip-Based Nanospray Q-ToF for Identification of Sulfatides in Complex Mixtures**; Jeremy Allegood; Elaine Wang; M. Cameron Sullards; Alfred H. Merrill Jr; *Georgia Institute of Technology, Atlanta, GA*

WP 421 **Profiling of Membrane Lipids by On-Line Reversed-Phase Liquid Chromatography Electrospray Ionization FT-ICR Mass Spectrometry**; Huan He; Mark R Emmett; Carol L. Nilsson; Alan G. Marshall; *Florida State University, Tallahassee, FL*

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WP 425 **Proteogenomics Reveals Key Insight into the Microbial Activities of Enhanced Biological Phosphorus Removal in Activated Sludge**; Mark G. Lefsrud[1]; Paul Wilmes[2]; Nathan C. VerBerkmoes[1]; Margaret Wexler[3]; Paul E. Abraham[1]; Manesh B. Shah[1]; Phil L. Bond[4]; Jill F. Banfield[2]; Robert L. Hettich[1]; *[1]Oak Ridge National Labratory, Oak Ridge, Tennessee; [2]University of California, Berkeley, Berkeley, California; [3]University of East Anglia, Norfolk, England; [4]The University of Queensland, Brisbane, Australia*

WP 426 **Structural Characterization of *Actinomyces naeslundii* Fimbriae using Mass Spectrometry**; Jenny T.C. Ho[1]; John O. Cisar[2]; Sonja Hess[3]; *[1]NIH/NIDDK, Bethesda, MD; [2]NIDCR/NIH, Bethesda, MD; [3]California Institute of Technology, Pasadena, CA*

WP 427 **Effect of Microbial Sample Processing Conditions on Bacterial Identification Using Mass Spectrometry-Based Proteomics Approach**; Rabih E. Jabbour[1]; Jacek P. Dworzanski[1]; Samir V. Deshpande[2]; Charles H. Wick[3]; Alan W. Zulich[3]; *[1]SAIC INC., APG, MD, 21010; [2]Science and Technology Corporation, Edgewood, MD, 21040; [3]U.S. Army Edgewood Chemical Biological Center, APG, MD, 21010*

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WP 429 **Analysis of Tricarboxylic Acid Cycle Intermediates from *Shewanella oneidensis* MR-1 using Capillary Electrophoresis Time of Flight Mass Spectrometry**; Sandra Villa[1]; Peter Benke[2]; Edward Baidoo[2]; Christopher J. Petzold[1]; Aindrila Mukhopadhyay[2]; Julie A. Leary[4]; Jay D. Keasling[1]; *[1]UCB, Berkeley, CA; [2]Virtual Institute for Microbial Stress & Survival, Berkeley, CA; [3]Lawrence Berkeley National Laboratory, Berkeley, CA; [4]University of California Davis, Davis, CA*

WP 430 **Qualitative and Quantitative Protein Profiling for Target Identification Studies with Drug-Induced Changes in Mycobacteria**; Jeffrey C. Silva[1]; Minerva A. Hughes[2]; Craig A. Dorschel[1]; Scott J. Geromanos[1]; Johannes P. C. Vissers[1]; Craig A. Townsend[2]; *[1]Waters Corporation, Milford, MA; [2]The Johns Hopkins University, Baltimore, MD*

WP 431 **Search for New Antibiotics Produced by Bacillus Strains**; Jean-Marie Schmitter; Philippe Bressollier;

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Bernard Verneuil; Anne Chobelet; Armelle Ballade; Maria Urdaci; *IECB, Pessac, France*

WP 432 **Probing the Structures of Defensin Antimicrobial Peptides by Ion Mobility and Gas Phase Hydrogen/Deuterium Exchange Mass Spectrometry**; Wutharath Chin; *University of Edinburgh, Edinburgh, United Kingdom*

WP 433 **Sample Preparation Strategies for MALDI-TOF MS Fingerprinting of Mycobacteria**; Amanda D. Buskirk[1]; Sadia Ali[2]; Justin M. Hettick[1]; Paul D. Siegel[1]; Donald H. Beezhold[1]; *[1]National Inst. for Occupational Safety and Health, Morgantown, WV; [2]West Virginia University School of Medicine, Morgantown, WV*

WP 434 **From Genome to Metabolome: Correlating a Systems-wide Response to Environmental Adaptation in a Hyperthermophile**; Sunia Trauger[1]; Ewa Kalisiak[1]; Jarek Kalisiak[1]; Angeli Menon[2]; Farris Poole[2]; Michael Adams[2]; Gary Siuzdak[1]; *[1]The Scripps Research Institute, La Jolla, CA; [2]University of Georgia, Athens, GA*

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WP 436 **Utility of *t*bdms-Derivativatization and Software-Enhanced Mass Resolution for GC-MS Identification of Hydroxy Fatty Acids in Complex Bacterial Lipid Mixtures;** Deborah L. Chance; Thomas P. Mawhinney; *University of Missouri, Columbia, MO*

WP 437 **Proteomic and Genomic Analysis of Lycopene-Overproducing *Escherichia coli* Strains**; Brian E Mickus[1]; Jeffrey C Silva[2]; Johannes PC Vissers[2]; Hal Alper[1]; Joel F Moxley[1]; Gregory Stephanopoulos[1]; Charles L Cooney[1]; *[1]Massachusetts Institute of Technology, Cambridge, MA; [2]Waters Corporation, Milford, MA*

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WP 439 **Characterization of Nucleic Acid Secondary Structure by Gas-phase H/D Exchange in a Q-FT-ICR Mass Spectrometer**; Jingjie Mo; Kristina Håkansson; *University of Michigan, Ann Arbor, MI*

WP 440 **Identification of Crosslinked DNA/Acridine Mustard Adducts by IRMPD-MS**; Sarah E. Pierce[1]; Suncerae I. Smith[1]; Lynn Guziec[2]; Frank S. Guziec, Jr. [2]; Jennifer S. Brodbelt[1]; *[1]University of Texas-Austin, Austin, TX; [2]Southwestern University, Georgetown, TX*

WP 441 **Global Quantification of Transfer RNAs (tRNAs) by their Signature Digestion Products using Stable Isotope Labeling and MALDI-MS**; Mahmud Hossain; Patrick A. Limbach; *University of Cincinnati, Cincinnati, OH*

WP 442 **Identification of Oligonucleotide-Peptide Cross-Links using Mass Defect Scans**; Soheil Pourshahian; Patrick A Limbach; *University of Cincinnati, Cincinnati, OH*

WP 443 **Gas-Phase Stability of G-quadruplex DNA Determined by Electrospray Ionization Tandem Mass Spectrometry and Molecular Dynamics Simulations**; Carolyn Mazzitelli; Joseph Chipuk; Junmei Wang; Jennifer Brodbelt; *The University of Texas, Austin, TX*

WP 444 **Analysis of Antisense Oligonucleotides using Ion-Pair Reversed-Phase LC-UV-MS and Capillary Gel Electrophoresis**; Jin Wu; Saima Syed; Robert Papp; Thanh H. Hoang; Camil Sayegh; Deborah Nicoll-Griffith; Kevin P. Bateman; *Merck Frosst Centre for Therapeutic Research, Kirkland, Canada*

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WP 446 **Quantitative Analysis of DNA Lesions Induced by Hydroxyl Radical at GC/GmC Sites using Ascorbic Acid/H2O2 and Cu (II) or Fe(II)**; Huachuan Cao; Yinsheng Wang; *University of California, Riverside, Riverside, CA*

WP 447 **Impact of Cytosine Methylation on the Reactivity of Adjacent Guanines in DNA Evaluated by CAD and IRMPD**; Suncerae Smith[1]; Wendy Marriner[1]; Frank Guziec[2]; Sean Kerwin[1]; Jennifer S. Brodbelt[1]; *[1]University of Texas at Austin, Austin, TX; [2]Southwestern University, Georgetown, TX*

WP 448 **Determining Binding Affinity of Quadruplex Structures and Specific Metal Cations using ESI-MS**; J. Micah Wilcox; Michael L. Gross; *Washington University, St. Louis, MO*

WP 449 **Unconventional Self-Assembled DNA Structures: Isoguanine Containing Pentaplexes and PNA/DNA Complexes for Sensing and Therapeutics**; Carol E. Parr[1]; Sarah E. Pierce[1]; Suncerae I. Smith[1]; Kerry Bruns[2]; Janarthanan Jayawickramarajah[3]; Jennifer S. Brodbelt[1]; *[1]The University of Texas at Austin, Austin, TX; [2]Southwestern University, Georgetown, TX; [3]Yale University, New Haven , CT*

WP 450 **LC-MS/MS Analysis of Nanoparticle-Induced Oxidative DNA Damage**; Haizheng Hong; Yinsheng Wang; *University of California at Riverside, Riverside, CA*

WP 451 **The Effect of 6-Thioguanine on the Methylation of Cytosine by Bacteria and Human Methyltransferases**; Hongxia Wang; Yinsheng Wang; *University of California, Riverside, Riverside, CA*

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WP 453 **Title: Probing the Conformations of the 5'-UTR Riboswitch of HIV-1 using Crosslinking Reagents and ESI-FTICR Mass Spectrometry**; Dong Yang; Daniele Fabris; *University of Maryland, Baltimore County, Baltimore, MD*

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of Protein Constructs in NMR Structure Determination; Seema Sharma; Haiyan Zheng; Li-chung Ma; Janet Huang; Peter Lobel; Gaetano T. Montelione; *CABM, Rutgers University, Piscataway, NJ*

WP 457 **Signal Response of Co-Existing Protein Conformers in Electrospray Ionization Mass Spectrometry**; Mark C. Kuprowski; Lars Konermann; *University of Western Ontario, London, CANADA*

WP 458 **The First Step of Hen Egg White Lysozyme Fibrillation, Irreversible Partial Unfolding, Studied by ESI MS;** Ming Xu[2]; Viktor A. Shashilov[2]; Vladimir V. Ermolenkov[2]; Laura Fredriksen[2]; Igor K. Lednev[2]; Dmitri Zagorevski[1]; *[1]Rensselaer Polytechnic Institute, Troy, NY; [2]University at Albany, SUNY, Albany, NY*

WP 459 **The Structure of Human Prion Protein Amyloid Fibrils Determined by Hydrogen Exchange-Mass Spectrometry**; Xiaojun Lu; Patrick L. Wintrode; Witold K. Surewicz; *Case Western Reserve University, Cleveland, OH*

WP 460 **Protein Folding Studied by ESI-MS: Insights into the Relationship between Protein Conformation and Charge State Distribution from Molecular Dynamics Simulations**; Lars Konermann; *University of Western Ontario, London, Canada*

WP 461 **Mechanism of the Insertion of Bilayer Membrane by Melittin**; Kazumi Saikusa; *Graduate school of science, Hiroshima University, Higashihiroshima, Japan*

WP 462 **Probing the Gas Phase Folding Kinetics of Peptide Ions by IR Activated DR-ECD**; Cheng Lin; JASON J. Cournoyer; Peter B. O'Connor; *Boston University, Boston, MA*

WP 463 **Temperature-Dependent Hydrogen/Deuterium Exchange is an Indispensible Tool for Characterizing ALS Mutant SOD1 Proteins;** Armando Durazo[1]; Bryan F. Shaw[2]; Kym F. Faull[1]; Julian P. Whitelegge[1]; Joan S. Valentine[1]; *[1]UCLA, Los Angeles, CA; [2]Harvard, Cambridge, MA*

WP 464 ***Ex Vivo* Analysis of Protein-Ligand Binding Interactions in Cellular Pathways using SUPREX**; Petra L. Roulhac[1]; Katherine D. Weaver[1]; Timothy A. Mietzner[2]; Cynthia N. Cornelissen[3]; Alvin L. Crumbliss[1]; Michael C. Fitzgerald[1]; *[1]Duke University, Durham, NC; [2]University of Pittsburgh, Pittsburgh, PA; [3]Virginia Commonwealth University, Richmond, VA*

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WP 465 **Protein Profilings in Mouse Liver Regeneration after Partial Hepatectomy Using iTRAQ Technology**; Ming-Fong Chang; Hui-Chu Hsieh; Yi-Ting Chen; See-Chang Huang; Tzu-Ling Tseng; Sung-fang Chen; *Industrial Technology Research Institute, Chutung, Taiwan*

WP 466 **ITRAQ Analysis of Macrophage Response to QS Molecules**; Srinivas Iyer[1]; Rashi Iyer[1]; Rebecca Martin[1]; Sanjeev Bhardwaj[2]; James E Carlson[3]; *[1]LANL, Los Alamos, NM; [2]Merck Research Laboratory, west point, PA; [3]Applied Biosystems, Framingham, MA*

WP 467 **Tracking the Endocytotic Pathway Through Quantitaive Proteomics**; Gregg Czerwieniec; Fannie W. Chen; Yiannis A. Ioannou; Rong Wang; *Mount Sinai School of Medicine, New York, NY*

WP 468 **Amino Acid Starvation-Induced Changes in the Cellular Proteome**; Anders Riis Kristensen[1]; Joern Dengjel[1]; Soeren Gade[1]; Maria Hoyer-Hansen[2]; Marja Jaattela[2]; Jens S Andersen[1]; *[1]CEBI, University of Southern Denmark, Odense, Denmark; [2]Danish Cancer Society, Copenhagen, Denmark*

WP 469 **Investigation the Role of Glycosylation on the Self-Assembly of Human Serum Amyloid P using Mass Spectrometry**; Jiaxi Wang; Gina Dimopoulos-Italiano; Brian McCarry ; M. Kirk Green; *MRCMS, McMaster University, Hamilton, Canada*

WP 470 **The Gram-positive Ribosomal Proteome**; William Running; James P. Reilly; *Indiana University, Bloomington, IN*

WP 471 **Investigation of the Norway Spruce Proteome Following Elicitation with Chitosan, a Fungal Cell Wall Derivative**; Dustin N Lippert[1]; Michael Phillips[2]; Cristoph Borchers[3]; Jonathan Gershenzon[2]; Joerg Bohlmann[1]; *[1]University of British Columbia, Vancouver, Canada; [2]Max Planck Institute for Chemical Ecology, Jena, Germany; [3]UVic-GenomeBC Proteomics Centre, Victoria, Canada*

WP 472 **On the Influence of Calcium and Recoverin on Rhodopsin Phosphorylation in Mice Retinas**; Junhua Wei; James B. Hurley; *University of Washington, Biochemistry Department, Seattle, WA*

WP 473 **In-solution Isoelectric-Focussing as an Effective Pre-Fractionation Strategy for Haemozoin Containment and High Resolution Gel-Based Analyses of the Plasmodium Falciparum Proteome;** Niroshini Nirmalan; Fiona Flett; Tom Skinner; Paul Sims; John Hyde; *Manchester Interdisciplinary Biocentre, University, United Kingdom*

WP 474 **Quantitative Proteomics of Mouse Embryonic Stem Cells: Conditions for effective SILAC Labeling**; Johannes Graumann[1]; Jeong Beom Kim[2]; Kinarm Ko[2]; Nina Hubner[1]; Markus Moser[1]; Hans Schoeler[2]; Matthias Mann[1]; *[1]Max-Planck-Institute for Biochemistry, Martinsried, Germany; [2]Max-Planck-Institute for Molecular Biomedicine, Muenster, Germany*

WP 475 **Following the Dynamics of the Cop9/Signalosome Interactome using MRM**; Brett Larsen[1]; Steve Tate[2]; Lionel Pintard[1]; Marcia Roy[1]; David Cox[2]; Eva Duchoslav[2]; Chris Lock[2]; Mike Tyers[1]; *[1]Samuel Lunenfeld Research Institute, Toronto, Canada; [2]Applied Biosystems/MDS Sciex, Concord, Canada*

WP 476 **Exploring the Acting Mechanism of Nitric Oxide by Proteomic Study using *in vitro* Cell Cultures as a Model System**; Yi-Ju Chen[1]; Wei-Chi Ku[3]; Ming-Li Tsai[4]; Wen-Feng Liaw[4]; Yu-Ju Chen[2]; *[1]National Chung Hsing University, Taichung, Taiwan; [2]Institute of Chemistry, Academia Sinica, Taipei, Taiwan; [3]CBMB, TIGP, Academia Sinica, Taipei, Taiwan; [4]National Tsing-Hua University, Hsinchu, Taiwan*

WP 477 **An ESI-FTICR Assay of HIV-1 Reverse Transcriptase Activity to Screen for Uncompetitive Enzyme Inhibitors**; Olesya Chornoguz[1]; Kevin B. Turner[1]; Hye Young Yi-Brunozzi[2]; Jennifer T. MIller[2]; Stuart F.J. Le Grice[2]; Daniele Fabris[1]; *[1]University of Maryland Baltimore County, Baltimore, MD; [2]NCI, National Insitute of Health, Fredererick, Maryland*

WP 478 **Tandem Affinity Purification and Proteomics to Identify Activin Receptor Signal Transduction and Crosstalk**; Karsten Schmidt; William Low; Wolfgang H. Fischer; *Salk Institute, La Jolla, CA*

WP 479 **FT-ICR MS Proteomic Analysis of Endogenous TAP-tagged CTCF Transcription Factor Complexes**; Matthew B. Renfrow; Yi-Shin Lai; Monica W. Stinnett; LeeAnn J. Boerma; Chia-Wei Chang; Greg Bowersock;

Tim M. Townes; *University of Alabama at Birmingham, Birmingham, AL*

WP 480 **Tandem Mass Spectrometry for Measuring Changes in Interacting Proteins in the Proteasome Upon Exposure to Ethanol**; Sara Bassilian[1]; Fawzia Bardag-Gorce[2]; Barbara French[2]; Samuel French[2]; Julian Whitelegge[1]; *[1]The Pasarow Mass Spectrometry Laboratory, UCLA, Los Angeles, CA; [2]LABioMed at Harbor-UCLA Medical Center, Torrance, CA*

WP 481 **Dramatic Down-regulation of Oxidoreductases in Human Hepatocellular Carcinoma HepG2 Cells: Proteomics and Bioinformatics Unveiling New Frontiers in Disease Enzymology**; Lambert C. Ngoka; *Virginia Commonwealth Univ., Richmond, VA*

WP 482 **Identification of AP-4 Complex as Potential Transcriptional Regulator of Mdm2 by Quantitative Proteomic Approach**; Wei-chi Ku[1]; Hsin-Hung Huang[2]; Yi-Ju Chen[3]; Yu-Ju Chen[2]; *[1]CBMB, TIGP, Academia Sinica, Taipei, Taiwan; [2]Institute of Chemistry, Academia Sinica, Taipei, Taiwan; [3]National Chung-Hsing University, Taichung, Taiwan*

PROTEOMICS: CANCER BIOMARKERS I
483 - 502

WP 483 **Online Multidimensional LCn-nESI-QqTOF-MS-MS Analysis for Novel Protein Biomarkers in Prostate Cancer using Multi-phasic Capillary Chromatographic Chemistries**; Spiros D. Garbis[1]; Theodoros Roumeliotis[1]; Panagiotis Zerefos[1]; Stavros I. Tyritzis[2]; Kitty Pavlakis[3]; Antonia Vlahou[1]; Sophia Kossida[1]; Stavros Vourekas[2]; Constantinos A. Constantinides[2]; *[1]Academy of Athens - Biomedical Foundation, Athens, Greece; [2]Department of Urology, Athens University Medical S, Athens, Greece; [3]Department of Pathology, Athens University Medical, Athens, Greece*

WP 484 **Cancer Biomarker Discovery via Low Molecular Weight Serum Proteome Profiling – Where is the Tumor?**; Paul Auger; Michael T. Davis; Chris Spahr; Scott D. Patterson; *Amgen, Inc., Thousand Oaks, CA*

WP 485 **Protein Signature Predicts Response to Chemotherapy in Patients with High-Grade Glioma**; Michael L. Edgeworth[1]; Sarah A. Schwartz[2]; Sara L. Frappier[1]; Deming Mi[1]; Reid C. Thompson[1]; Richard M. Caprioli[1]; *[1]Vanderbilt University Medical Center, Nashville, TN; [2]Midwest Research Institute, Kansas City, MO*

WP 486 **Differential Expression of Specific Proteolytic Albumin Fragments in Serum Samples of Prostate Carcinoma Patients with Metastases**; Lennard Dekker[1]; Peter Burgers[1]; Angelique van Rijswijk[1]; Mark Titulaer[1]; Rainer Bischoff[2]; Guido Jenster[1]; Chris Bangma[1]; Theo Luider[1]; *[1]Erasmus MC, Rotterdam, Netherlands; [2]University of Groningen, Groningen, Netherlands*

WP 487 **Body Fluid Proteomics for Oral Cancer Biomarker Discovery**; Shen Hu; Martha Arellano-Garcia; Pinmanee Boontheung; Joseph Loo; David Wong; *University of California, Los Angeles, CA*

WP 488 **Quantitative Proteomic Evaluation of Protein Abundance via Metabolic Labeling across Multiple Tissues in the *Apc^{Min}* Mouse Model for Colorectal Cancer**; Edward L. Huttlin; Adrian D. Hegeman; Xiaodi Chen; Gregory A. Barrett-Wilt; Amy C. Harms; William F. Dove; Michael R. Sussman; *University of Wisconsin- Madison, Madison, WI*

WP 489 **Identification of Urinary Biomarkers for Bladder Cancer**; Lorne Budman[1]; Jordan Steinberg[1]; Robert Masse[2]; David Blank[3]; Hugh PJ Bennett[4]; Bernard F Gibbs[4]; *[1]Dept. of Urology, Montreal General Hospital, MUHC, Montreal, Canada; [2]MDS Pharma Services, Montreal, Canada; [3]Royal Victoria Hospital, MUHC, Montreal, Canada; [4]Sheldon Biotechnology Center, McGill University, Montreal, Canada*

WP 490 **High Throughput Absolute Quantitation of the Expression and Modification Level of Proteins Involved in Signaling Pathways by iMASS^2 Assay**; Jian Jiang; Carol E. Parker; Katherine A. Hoadley; Charles M. Perou; Christoph H. Borchers; *UNC-Chapel Hill, Chapel Hill, NC*

WP 491 **Proteomic Profiling of Bronchoalveolar Lavage Fluid (BALF) As a Biofluid for the Detection of Lung Cancer**; David E. Malehorn[2]; Talal El-Hefnawy[1]; Rodney J. Landreneau[3]; James D. Luketich[3]; Mai Sun[1]; Naftali Kaminski[1]; Ivan O. Rosas[1]; Jill M. Siegfried[1]; William L. Bigbee[2]; *[1]University of Pittsburgh, Pittsburgh , PA; [2]Clinical Proteomics Facility, Univ Pittsburgh Canc Inst, Pittsburgh, PA; [3]Heart, Lung, and Esophageal Surgery Institute, University of Pittsburgh, Pittsburgh PA*

WP 492 **Indole-3-Carbinol Inhibits 4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanone Plus Benzo[a]pyrene-Induced Lung Tumorigenesis in A/J Mice and Modulates Carcinogen-Induced Alterations in Protein Expression**; Lorraine B. Anderson; Fekadu Kassie; Robyn Scherber; Nanxiong Yu; David Lahti; Pramod Upadhyaya; Stephen S Hecht; *University of Minnesota, Minneapolis, MN*

WP 493 **Identification of Differentially Abundant Proteins in Cancer Murine Subjects using the Corra Label-Free LC-MS Proteomics Platform**; Simon Letarte[1]; Mi-Youn Brusniak[1]; Alexander Schmidt[2]; Hollis Lau[1]; David Campbell[1]; Lukas Mueller[2]; Olga Vitek[3]; James Eddes[1]; Julian Watts[1]; Ruedi Aebersold[1]; *[1]Institute for Systems Biology, Seattle, WA; [2]Institute for Molecular Systems Biology, Zurich, Switzerland; [3]Purdue University, Lafayette, IL*

WP 494 **Characterization of Urinary Proteome with Bladder Cancer from a Blackfoot Disease Endemic Area in Taiwan**; Yu-Chang Tyan; How-Ran Guo; Lia-Beng Tan; Pao-Chi Liao; *National Cheng Kung University, Tainan, Taiwan*

WP 495 **Probe the Altered Balance of Cysteine Proteases and Cystatins in Cancer using Quantitative Intact-Protein Analysis System (IPAS)**; Hong Wang; Sharon Pitteri; Vitor Faca; Jason Struthers; Qing Zhang; Sam Hanash; *PHS, Fred Hutchinson Cancer Research Center, Seattle, WA*

WP 496 **Differential Proteomic Characterization of B Cell Proliferative States: Analysis of Tumor-Specific and Proliferation-Specific Proteomes in Normal and Malignant B Cells**; Paul B. Romesser[1]; David H. Perlman[2]; Anupama Sinha[3]; Mark E. McComb[2]; Douglas V. Faller[3]; Catherine E. Costello[2]; Gerald V. Denis[3]; *[1]Boston University School of Medicine, Boston, MA; [2]BUSM Center for Biological Mass Spectrometry, Boston, MA; [3]BUSM Cancer Research Center, Boston, MA*

WP 497 **A Combined Proteomic and Lipidomic Investigation of Glioblastoma Multiforme Cell Lines Treated with Wild-Type p53 and Cytotoxic Chemotherapy**; Carol

Nilsson[1]; Charles Conrad[2]; Mark R. Emmett[1]; Huan He[1]; Huimin Zhang[1]; Alan G. Marshall[1]; *[1]Florida State University, Tallahassee, FL; [2]M.D. Anderson Cancer Center, Houston, TX*

WP 498 **Altered Glycolysis Pathways in Liver Cancer Revealed by Quantitative Proteomics**; Heyi Yang; Rong Wang; *Mount Siani School of Medicine, New York , NY*

WP 499 **Identification of Candidate Biomarkers of Hepatocellular Carcinoma using a GeLCMS Based Tissue-to-Plasma Strategy**; Sheeno Thyparambil[2]; Richard C. Jones[1]; Ricky D. Edmondson[1]; *[1]National Center for Toxicological Research, Jefferson, AR; [2]University of Arkansas for Medical Sciences, Little Rock, AR*

WP 500 **Activation of PI3K/AKT Pathway: A Proteomic Signature for Hepatic Metastasis of Colorectal Cancer**; Bin Kang[1]; Chunyi Hao[2]; Jun Zhang[1]; Rui Xing[1]; Siqi Liu[1]; Youyong Lu[2]; *[1]Beijing Genomics Institute,CAS, Beijing, China; [2]Beijing Institute for Cancer Research, Beijing, China*

WP 501 **Differential Analysis of Proteasome Complexes and Proteomes from Human Leukemic Cells at Different Stages of Differentiation**; Mariette Matondo[1]; Sandrine Uttenweiler-Joseph[1]; Marie-Pierre Bousquet-Dubouch[1]; Stephane Manenti[2]; Bernard Monsarrat[1]; Odile Burlet-Schiltz[1]; *[1]IPBS-CNRS UMR5089, Toulouse, France; [2]INSERM U563, Toulouse, France*

WP 502 **Novel Microfluidic Strategies for Proteomic Profiling of Cancerous Cell Extracts**; Iulia M. Lazar; Jenny M. Armenta; Abdulilah A. Dawoud; Xu Yang; *Virginia Bioinformatics Institute, Blacksburg, VA*

PROTEOMICS: NEW & IMPROVED METHODS III
503 - 522

WP 503 **A Quality Score for Product Ion Spectra in Proteomics: How to Teach an Expert System with Minimal Manual Input**; Thomas Koenig[1]; Bjoern H. Menze[2]; Marc Kirchner[2]; Kenneth C. Parker[1]; Flavio Monigatti[1]; Thomas Patterson[1]; Judith Steen[1]; Fred A. Hamprecht[2]; Hanno Steen[1]; *[1]Children's Hospital Boston, Boston, MA; [2]Interdisciplinary Center for Scientific Computing, Heidelberg, Germany*

WP 504 **Proteomics as a Complementary Tool for Genome Annotation Thanks to MS/MS Data Searches in Unannotated Genome Sequences;** Christine Carapito[1]; Michael Heymann[4]; Sébastien Gallien[1]; Christine Schaeffer[1]; François Delalande[1]; Emmanuel Perrodou[2]; Odile Lecompte[2]; Caroline Deshayes[3]; Jean-Marc Reyrat[3]; Olivier Poch[2]; Daniel Muller[4]; Evelyne Turlin[5]; Marie-Claire Lett[4]; Philippe Bertin[4]; Alain Van Dorsselaer[1]; *[1]IPHC-DSA, LSMBO, ULP-CNRS (UMR7178), Strasbourg, France; [2]IGBMC, Biologie et Génomique Structurales, Strasbourg, France; [3]Inserm-UMR 570, Paris, France; [4]Génétique moléculaire,Génomique,ULP-CNRS(UMR 7156), Strasbourg, France; [5]Institut Pasteur, URA 2171 CNRS, Paris, France*

WP 505 **Qcal- A Novel Standard for Assessing Instrument Conditions for Proteome Analysis**; Claire E Eyers[1]; Hannah Johnson[1]; Deborah M Simpson[2]; Stephen Wong[1]; Robert J Beynon[2]; Simon J Gaskell[1]; *[1]University of Manchester, Manchester, United Kingdom; [2]University of Liverpool, Liverpool, United Kingdom*

WP 506 **Optimized Trap and Elute Strategies Combined with nanoLC/MS/MS and InfusionMS/MS for Identification of Proteins Separated by 2-Dimensional Gel Electrophoresis**; Simon J. Prosser[1]; Reinaldo Almeida[2]; Mark Allen[2]; Daniel J. Eikel[1]; Gary A. Schultz[1]; *[1]Advion BioSystems, Ithaca, NY; [2]Advion Ltd, Norwich, UK*

WP 507 **Proteomic Analysis of Adipose Tissue using Detergent-Free Protein Extraction by Pressure Cycling and High Resolution Tandem Mass Spectrometry;** Alexander V. Lazarev[1]; Gary Smejkal[1]; Ilyana Romanovsky[1]; Haiming Cao[2]; Gökhan Hotamisligil[2]; Alexander R. Ivanov[2]; *[1]Pressure BioSciences, Inc., Woburn, MA; [2]Harvard School of Public Health, Boston, MA*

WP 508 **Screening of Functionalized Gold Nanoparticles (AuNPs) for their Ability to Function as Concentrating Agents for Peptides**; Benjamin Vanderpuije; Gang Han; Vincent M. Rotello; Richard W. Vachet; *University of Massachusetts Amherst, Amherst, MA*

WP 509 **Using Size-Labels to Sort Phosphopeptides and Count Phosphates**; Xudong Yao; *University of Connecticut, Storrs, CT*

WP 510 **Advantages of a New Proteomic Approach that Uses Accurate Mass Measurements, LC Retention Time, Isoelectric Point and Dual Enzymatic Digestion**; Konstantinos Petritis[1]; Anoop M. Mayampurath[1]; NavDeep Jaitly[1]; Matthew E. Monroe[1]; Nikola Tolic[1]; John Fjeldsted[23]; Bryan Miller[23]; Tom Vandegoor[23]; Patrick Hoerth[23]; Paul Goodley[23]; Richard D. Smith[1]; *[1]Pacific Northwest Nat'l Laboratory, Richland, WA; [2]Agilent Technologies, Santa Clara, WA; [3]Agilent Technologies, Waldbronn, Germany*

WP 511 **Proteomic Experiments with an Ion Trap – Time-of-Flight (IT-TOF) MS Utilizing a Nanointerface**; Joy M. Ginter; Joseph P Fox; Nishimura Masayuki; *Shimadzu Scientific Instruments, Columbia, MD*

WP 512 **Electrocapture-Based Sample Preparation for ESI-MS Analysis of Polypeptides**; Susanne Vollmer[1]; Mohammadreza Shariatgorji[2]; Tomas Bergman[1]; Leopold Ilag [2]; Hans Jörnvall[1]; Juan Astorga-Wells[1]; *[1]Karolinska Institutet, Stockholm, Sweden; [2]Stockholm University, Stockholm, Sweden*

WP 513 **Simultaneous Quantitation of Several HIV Antiretroviral Drugs in Human Plasma by LC Tandem MS**; David Blank[1]; Brian Gilfix[1]; Marcos Di Falco[2]; Leonid Kriazhev[2]; Benoit Houle[2]; Mike Aguiar[3]; Hugh PJ Bennett[3]; Bernard F Gibbs[3]; *[1]Royal Victoria Hospital, MUHC, McGill U, Montreal, Canada; [2]Genome Quebec, McGill University, Montreal, Canada; [3]Sheldon Biotechnology Center, McGill U, Montreal, Canada*

WP 514 **Decoy Strategy Applied to a Multi-Workflow Proteomic Approach**; Ulrike Schweiger-Hufnagel[1]; Peter Hufnagel[1]; Gerhard Körting[2]; Stephanie Hahner[1]; Markus Lubeck[1]; Detlev Suckau[1]; *[1]Bruker Daltonik GmbH, Bremen, Germany; [2]Protagen AG, Dortmund, Germany*

WP 515 **Data Mining Synechocystis Shotgun Proteomics Experiments using a Robust Data Management System in Combination with a Novel Automated Analysis Pipeline;** Kevin Jones[1]; Phil Wright[3]; Mark Pitman[2]; *[1]Genologics, Victoria, BC, Canada; [2]Proteome Software, Portland, OR; [3]University of Sheffield, Sheffield, UK*

POSTER SPACE

WP 516 **A Novel Fused-Core Silica Particle Based Nanobore Column for Ultra-High Performance Nanoelectrospray Mass Spectrometry**; Robert Moody[1]; Gary A. Valaskovic[2]; Mike S. Lee[3]; *[1]MAC-MOD Analytical, Chadds Ford, Pennsylvania; [2]New Objective, Inc., Woburn, MA; [3]Milestone Development Services, Newtown, PA*

WP 517 **Parallel Affinity-Based Sample Preparation for Rapid and Reproducible MS Based Protein Analysis;** Johan Ohman; Ola Ronn; Matilda Almstedt; *GE Healthcare Bio-Sciences AB, Uppsala, Sweden*

WP 518 **Protein Identification by Retention-time Prediction, High Precision HPLC, and Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; J. Larry Campbell[1]; Sean C. Bendall[1]; Zheng Ye[1]; Paula P. Pittock[1]; Hongfeng Yin[2]; Kevin Killeen[2]; Reid Brennen[2]; Victor Spicer[3]; Oleg Krokhin[3]; Gilles A. Lajoie[1]; *[1]University of Western Ontario, London, ON, Canada; [2]Agilent Laboratories, Santa Clara, CA,; [3]University of Manitoba, Winnipeg, MN, Canada*

WP 519 **Applications of Mascot and ProteinPilot Database Searching Tools for Enhanced Data Validation in Shotgun Proteomic Analysis of *Streptomyces scabies***; Sheng Zhang[1]; David Schneider[2]; Madhumita Joshi[3]; Robert Sherwood[1]; Sabine Baumgart[1]; Rosemary Loria[3]; *[1]Proteomics Core Facility, Cornell University, Ithaca, NY; [2]US Plant Soil and Nutrition Laboratory, Ithaca, NY; [3]Plant Pathology, Cornell University, Ithaca, NY*

WP 520 **Quantitation of Nitrosourea Anticancer Drugs and Their Derivatives by Liquid Chromatography with Tandem Mass Spectrometry**; Bertrand Jean-Claude[1]; Marcos Di Falco[2]; Leonid Kriazhev[2]; Benoit Houle[2]; David Blank[1]; Robert Masse[3]; Bernard F Gibbs[4]; Hugh PJ Bennett[4]; *[1]Royal Victoria Hospital, MUHC, Montreal, Canada; [2]Genome Quebec, McGill University, Montreal, Canada; [3]MDS Pharma Services, Montreal, Canada; [4]Sheldon Biotechnology Center, McGill U, Montreal, Canada*

WP 521 **Optimizing Data Collection of Shotgun Proteomics Datasets on an LTQ-Orbitrap**; Stephane Houel; *University of Colorado at Boulder, Boulder, CO*

WP 522 **Improved Peptide Isoelectric Point Prediction in Proteomics: Separating the Wheat from the Chaff**; James L. Stephenson, Jr; Benjamin J. Cargile; Maureen K. Bunger; Joel R. Sevinsky; *Research Triangle Institute, Research Triangle Park, NC*

PROTEOMICS: PHOSPHORYLATION
523 - 538

WP 523 **Isolation and Identification of Phosphopeptides by Combining Strong Cationic Exchange and Hydrophilic Interaction Chromatography**; A. Jimmy Ytterberg; Rachel R. Ogorzalek Loo; Pinmanee Boontheung; Joseph A. Loo; *UCLA, Los Angeles, CA*

WP 524

WP 525 **Proteomics Characterization of Oncogenic Kinase Inhibitors**; Yi Zhang; Jianming Zhang; Nathanael S. Gray; Jarrod A. Marto; *Dana-Farber Cancer Institute, Boston, MA*

WP 526 **Optimized Phosphoproteomic Analysis to Probe Differential Stimulation of Hippocampal Slices**; Mark O Collins; Marcelo P Coba; Lu Yu; Sajani Swamy; Seth G Grant; Jyoti S Choudhary; *The Wellcome Trust Sanger Institute, Hinxton, United Kingdom*

POSTER SPACE

WP 527 **Developing Soluble Dendritic Polymers for Quantitative Phosphoproteome**; Minjie Guo; Judith Mikolajczak; Jacob Galan; W. A. Tao; *Purdue University, West Lafayette, IN*

WP 528 **Tissue Proteomics: Characterization of Cyclin E1 and cyclin D1 Multiprotein Complexes Derived from Primary Tissue by LC-MS/MS**; Yasmine Ndassa-Colday[1]; Junko Odajima[2]; Frederic Bienvenu[2]; Manor Askenazi[2]; Siwanon Jirawatnotai[2]; Peter Sicinski[2]; Jarrod Marto[2]; *[1]Harvard University, Cambridge, MA; [2]Dana-Farber Cancer Institute, Boston, MA*

WP 529 **Deciphering Subcellular Phosphoproteome using Fully-Automatic and Online Two-dimensional Liquid Chromatography Mass Spectrometry Based on pH Continuous Gradient Strong Anion Exchange**; Rong Zeng; Jie Dai; Su-Jun Li; Chia-Hui Shieh; Liu-Ya Tang; Song Nie; *Shanghai Institutes for Biological Sciences, Shanghai, China*

WP 530 **Characterization of the Phosphorylation Events Involved in the Interleukin-1 beta Signalling Pathway in Pancreatic Beta Cells**; Kasper Engholm-Keller[1]; Flemming Pociot[2]; Allan E. Karlsen[3]; Martin R. Larsen[1]; *[1]University of Southern Denmark, Odense, Denmark; [2]Steno Diabetes Center, Copenhagen, Denmark; [3]Novo Nordisk, Copenhagen, Denmark*

WP 531 **Analysis of Murine Embryonic Stem Cell Self-Renewal Pathways using Quantitative Phosphoproteomics**; Yu Lu[1]; Manor Askenazi[1]; Thorsten M. Schlaeger[3]; Yi Zhang[1]; John Chance Luckey[2]; Jarrod A. Marto[1]; *[1]Dana-Farber Cancer Inst, Harvard Medical School, Boston, MA; [2]Brigham and Women's Hospital, HMS, Boston, MA; [3]Children's Hospital, Harvard Medical School, Boston, MA*

WP 532 **Fractionation of Phosphopeptides using Titanium Dioxide Chromatography with pH Gradient Elution**; Chong-Feng Xu; Thomas A. Neubert; *NYU Medical Center, New York, NY*

WP 533 **A Proteomics Analysis of Phosphoproteins Regulated by PPP Family Ser/Thr Phosphatases**; Hemalatha Jayachandran[1]; Feng Yang[3]; Navdeep Jaitly[3]; Quanzhou Luo[3]; Marina Gristenko[3]; David J. Anderson[3]; Rui Zhang[3]; Samuel O. Purvine[3]; Ronald J. Moore[3]; Heather M. Mottaz[3]; Mary S. Lipton[3]; David G. Camp, II[3]; Harold R. Udseth[3]; Richard D. Smith[3]; Sandra Rossie[1]; *[1]Department of Biochemistry, Purdue University, West Lafayette, IN; [2]Purdue Cancer Center, West Lafayette, IN; [3]Biological Sciences Division, PNNL, Richland, WA*

WP 534 **Highly Specific Enrichment for Phosphoproteom Profiling by On-Line Immobilized Metal Affinity Chromatography**; Chia-Feng Tsai[1]; Jia-Wei Dai[2]; Hsin-Hung Huang[2]; Yet-Ran Chen[2]; Yu-Ju Chen[2]; *[1]National Taiwan Normal University, Taipei, Taiwan; [2]Institute of Chemistry, Academia Sinica, Taipei, Taiwan*

WP 535 **A Proteomic Screen for Host Cell Proteins Interacting with Tyrosine Phosphorylated Bacterial Toxins**; Matthias Selbach[1]; Patrick Guye[2]; Sabine Brandt[3]; Steffen Backert[3]; Christoph Dehio[2]; Matthias Mann[1]; *[1]Max Planck Institute of Biochemistry, Munich, Germany; [2]Biozentrum, University of Basel, Basel, Switzerland; [3]University of Magdeburg, Magdeburg, Germany*

WP 536 **Towards Simplification of the Phosphoproteome : Hydrophilic-Interaction Chromatography (HILIC) as a Prefractionation Technique for Improving Global Phosphopeptide Isolation and Detection**; Dean

E. McNulty; Roland S. Annan; *GlaxoSmithKline, King of Prussia, PA*

WP 537 **Identification of potential Mitogen Activated Protein Kinase Effectors in T-Cell Receptor Signaling by Phosphoproteomics**; Viveka Mayya; Deborah H. Lundgren; Sun-Il Hwang; David K. Han; *University of Connecticut Health Center, Farmington, CT*

WP 538 **Probing the Signaling Pathways of Self-Renewal Through Comprehensive Phosphoproteome Analyses of Leukemic Hematopoietic Stem Cells**; Maria Marcantonio; Matthias Trost; Amelie Faubert; Christelle Pomies; Guy Sauvageau; Pierre Thibault; *IRIC, University of Montreal, Montreal, Canada*

PROTEOMICS: QUANTITATION TECHNIQUES I
539 - 556

WP 539 **Comparative Analysis of Non-Labeling and iTRAQ Based Methods for Protein Quantification in the MCF7 Cell Line Using 2DLC/MS/MS**; Jenny M Armenta[1]; Yang Xu[1]; Abdulilah A Dawoud[1]; Iulia M Lazar[1]; *[1]Virginia Bioinformatics Institute, Blacksburg, VA; [2]Virginia Polytechnic Institute and State Universit, Blacksburg, Virginia*

WP 540 **A Quantitative Approach to LC-MS/MS Proteomic Analysis in a Complex Mixture Using Lysozyme as an Internal Standard**; Benjamin Mann; *Indiana University, Bloomington, IN*

WP 541 **Development of a Microfluidic Chip Coupled with MALDI-TOF MS for Fast Sample Preparation in Proteomics**; Jeonghoon Lee; Harrison Musyimi; Steven A. Soper; Kermit K. Murray; *Louisiana State University, Baton Rouge, LA*

WP 542 **Capillary Liquid Chromatography Combined with Nanospray Mass Spectrometry to Obtain Label Free Quantification Data**; Tony Tegeler; Kerry Bemis; Jinsam You; Jean-Pierre Wery; *INCAPS, Indianapolis, IN*

WP 543 **ICPL Labeling in Functional Proteomics Experiments: Substrate Identification of the Extracellular Protease ADAMTS1 using SDS-PAGE LC-MS/MS**; Francesc Canals[1]; Nuria Colomé[1]; Joan J. Bech-Serra[1]; Juan Carlos Rodríguez-Manzaneque[1]; Wolfgang Jabs[2]; Markus Lubeck[2]; Carsten Baessmann[2]; Detlev Suckau[2]; *[1]Vall d'Hebron Uni. Hospital Research Institut, Barcelona, Spain; [2]Bruker Daltonik GmbH, Bremen, Germany*

WP 544 **A Novel Stable Isotope Labeling for Quantitative Proteomics**; Xiaoyan Liu; Jianjun Zhai; Zhenyu Huang; Haining Zhu; *University of Kentucky, Lexington, KY*

WP 545 **Targeted Quantitative Protein Analysis in Human Plasma Using High Resolution Selected Reaction Monitoring Assays on a Triple Quadrupole Mass Spectometer**; Reiko Kiyonami; Ken Miller; *Thermo Fisher Scientific, San Jose, CA*

WP 546 **Label-free Quantitation of Proteins in the Nucleus Accumbens of Rats Following Administration of Growth Hormone**; John Flensburg[1]; Jenny Samskog[1]; Madeleine Le Grevès[2]; *[1]GE Healthcare, Uppsala, Sweden; [2]Uppsala University, Uppsala , Sweden*

WP 547 **Evaluation of Label-free LC-MS/MS Quantitative Analysis for Plasma Biomarker Discovery and Validation using a Three-dimensional Protein Profiling Strategy;** Hsin-yao Tang[1]; Lynn A. Echan[1]; Tony Chang-Wong[1]; Cindy L. Chepanoske[2]; Eric Y. Chan[2]; Susana Guedes[2]; Andrew D. Keller[2]; Lee Weng[2]; David W. Speicher[1]; *[1]The Wistar Institute, Philadelphia, PA; [2]Rosetta Biosoftware, Seattle, WA*

WP 548 **A Proteomic Method for Characterizing Changes in Plasma Samples Incurred by Processing Methods**; Fanyu Meng; Yi Du; James Loderstedt; Robert E. Settlage; Nathan A. Yates; Ronald C. Hendrickson; *Merck Research Labs, Merck & Co., Inc, Rahway, NJ*

WP 549 **Quantitative Proteomic Profiling of the Ubiquitin-Proteasome System in *in vitro* and *in vivo* Models of Neurodegenerative Disease**; Thomas A. Shaler[1]; Eric J. Bennett[2]; B. Woodman[3]; Gillian P. Bates[3]; Howard Schulman[1]; Ron R. Kopito[2]; Cristopher H. Becker[1]; *[1]PPD, Menlo Park, CA; [2]Stanford University, Stanford, CA; [3]GKT School of Medicine, King's College, London, UK*

WP 550 **Absolute Quantification of the Uridine Diphosphate Glucuronosyl Transferase (UGT) Enzyme Isoforms 1A1 and 1A6 By Tandem LC-MS;** John K Fallon[1]; David E Harbourt[1]; Saber H Maleki[2]; Philip C Smith[1]; *[1]School of Pharmacy, University of North Carolina, Chapel Hill, NC 27599; [2]Panacos Pharmaceuticals Inc., Gaithersburg, MD 20877*

WP 551 **Multiplex Labeling and Mass Spectrometry Analysis Reveals Differential Protein Expression of Human Skin Fibroblasts in Response to Different Ionizing Radiations**; Yu-chun Du[1]; Tiao Zhang[1]; Sheng Gu[3]; Xian Chen[2]; *[1]Los Alamos National Laboratory, Los Alamos, NM; [2]University of North Carolina at Chapel Hill, Chapel Hill, NC; [3]Biogen Idec, Cambridge, MA*

WP 552 **Comparing Protein and Peptide Identifications from MARS-Depleted Mouse Plasma using Reversed-Phase LC-MS/MS with and without Prior Strong Cation Exchange Fractionation**; Regine Schoenherr[1]; Jeffrey Whiteaker[1]; Li-chia Feng[1]; Jeffrey Patterson[1]; John Keane[1]; Pei Wang[1]; Lei Zhao[1]; Travis Lorentzen[1]; Brian Piening[1]; Karen Spratt[1]; Y. Heidi Zhang[2]; Amanda Paulovich[1]; *[1]Fred Hutchinson Cancer Research Center, Seattle, WA; [2]Amgen, Thousand Oaks, CA*

WP 553 **Improved Data Analysis Coverage through the Use of FTMS, ITMS, and ITMS/MS: Label-Free Analysis of HIV-1 Infection Model**; Eric Chan[1]; Jennifer N Sutton[2]; Lee Weng[3]; Amol Prakash[2]; Leo E Bonilla[2]; Michael G Katze[1]; *[1]University of Washington, Seattle, WA; [2]Thermo BRIMS Center, Cambridge, MA; [3]Rosetta Biosoftware, Seattle, WA*

WP 554 **Optimization of iTRAQ Quantitation for Differential Proteomics in Mice**; Linhong Jing[1]; Li Zhou[1]; Maria E. Warren[1]; Yan Wu[1]; Nedyalka Dicheva[1]; David Robinette[1]; Viorel Mocanu[1]; Carol E. Parker[1]; David Seo[2]; Geoff Ginsberg[2]; Debra Schwinn[2]; Xian Chen[1]; *[1]University of North Carolina, Chapel Hill, NC; [2]Duke University, Durham, NC*

WP 555 **Label-free Proteomics: A Robust Tool for Quantitative Proteome Analysis**; Barbara Sitek[1]; Daniel Chamrad[2]; Marina Behrens[3]; Klaus Jung[1]; Gereon Poschmann[1]; Martin Blüggel[2]; Carsten Bäßmann[3]; Helmut E. Meyer[1]; Kai Stühler[1]; *[1]Medizinisches Proteom-Center, Bochum, Germany; [2]Protagen AG, Dortmund, Germany; [3]Bruker Daltonik GmbH, Bremen, Germany*

WP 556 **Quantitative Proteomics of Bronchoalveolar Lavage Fluid using Off Gel Electrophoresis and LC/Quadrupole Time of Flight MS**; Alexander B. Schilling[1]; Tina Purnat[1]; Manu Jain[2]; Simon Lin[2]; Christine Miller[3]; Dayin Lin[3]; *[1]University of Illinois at*

Chicago, Chicago, IL; [2]Northwestern University, Evanston, IL; [3]Agilent Technologies Inc., Santa Clara, CA

QUANTITATION: METHODS & APPLICATIONS
557 - 572

WP 557 **A Ring Trial Test of Nicotine Uptake Determinations by Multiple Laboratories**; Gary D. Byrd; Michael W. Ogden; *R.J. Reynolds Tobacco Co., Winston-Salem, NC*

WP 558 **Choice of Regression Type to Cover Extended Dynamic Range in LC-MS and LC-MS/MS Bioanalysis: Linear With-Dilution versus Quadratic No-Dilution;** Troy Bradley; Cynthia S. Côté; Jean-Nicholas Mess; Sylvain Latour; Dominique Guillet; Fabio Garofolo; *Algorithme Pharma Inc., Laval (Montreal), QC, Canada*

WP 559 **Post-Column Infusion Profile Convolution: A Robust and Universal Method for Quantifying Ionization Matrix Effects**; Zhenmin Liang; Sazzad Hussain; Surendra Bansal; *Hoffmann-La Roche, Inc., Nutley, NJ*

WP 560 **Trace Level Determination of Trichloroethylene in Biological Samples by Headspace Solid Phase Microextraction Gas Chromatography-Mass Spectrometry**; Yongzhen Liu; James V Bruckner; Michael G Bartlett; *University of Georgia, Athens, GA*

WP 561 **Trace Analysis of Polymers in Protein Products Alternative LC-MS/MS (SRM) Approach**; Mandana Keykhosravani; Amareth Lim; Jeff Patrick; Bryan Harmon; *Eli Lilly And Company, Indianapolis, IN*

WP 562 **Matrix Effects in Quantitative LC/MS Methods: The Effect of Co-injecting Various Matrix Amounts**; David N. Heller; Hemakanthi de Alwis; *FDA/CVM, Laurel, MD*

WP 563 **A Comparison of Matrix Effects with Standard and Modified ESI Probes**; Steve Bajic; Gareth Hammond; *Waters Corporation, Manchester, United Kingdom*

WP 564 **Quantitative Assay of Sudan Azo-Dyes in Food Matrixes by Liquid Chromatography Tandem Mass Spectrometry and Isotope Dilution**; Fabio Mazzotti; Leonardo Di Donna; Loredana Maiuolo; Anna Napoli; Raffaele Salerno; Giovanni Sindona; *Università della Calabria Dipartimento di Chimica, Rende, Italy*

WP 565 **The Case for a Gain-Calibrated Detection System**; Jeff Kernan; Jim Foote; Tom Doherty; *Agilent Technologies, Santa Clara, CA*

WP 566 **Exploiting Analyte-Induced Ion Suppression of a Co-eluting Internal Standard to Enhance Calibration Curve linearity**; Garnet McRae; Miles Webb; Nishi Gill; Rahul Vohra; *Painceptor Pharma Corp., Ottawa, Canada*

WP 567 **Measurement of Water Soluble B Vitamins in Infant Formula by Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS)**; Min Huang; Doug Winters; *Covance Laboratories, Inc, Madison, WI*

WP 568 **MALDI-TOF Quantitative Analysis on Binary Mixtures of Fullerenes and Polycyclic Aromatic Hydrocarbons**; Anna Cristadoro; Hans Joachim Räder; Klaus Müllen; *Max PLanck Institute for Polymer Research, Mainz, Germany*

WP 569 **A Novel Quantitation Method for Increasing the Sensitivity and Robustness of an LC/MS/MS Bioanalytical Assay**; Eryn K. Snowden-Rawley[1]; Mauro Aiello, Ph.D.[2]; *[1]Applied Biosystems, Framingham, MA; [2]Applied Biosystems/MDS Sciex, Concord, Ontario, Canada*

WP 570 **Rapid Full-scan TOF Quantitation Methods Utilizing the Improved Dynamic Range of a Qtof Mass Spectrometer**; April L. Smith; Jeffrey D. Miller; Anthony J. Romanelli; *Applied Biosystems, Framingham, MA*

WP 571 **Matrix Effects in the Analysis of Basic Compounds in Biomatrices by ES+ LC/MS/MS as a Function of Mobile Phase pH**; Liming Peng; Tivadar Farkas; Lawrence Loo; *Phenomenex Inc., Torrance, CA*

WP 572 **Simultaneous Quantitation of Carotenoids by LC-MS/MS in Foods and Supplements**; Miwako Kondo[1]; Li Yang[2]; Zijia Zhang[2]; Zhengtao Wang[2]; Xianguo Zhao[1]; *[1]Brunswick Laboratories, Norton, MA; [2]R&D Centre for Standardization of Chinese Medicine, Shanghai, P.R. China*

POSTER SPACE

7:30 – 8:00 am.....All Thursday posters should be set
10:15 am – 2:30 pm...All Thursday poster authors should be present
11:45 am – 12:15 pm.....Lunch break for odd-numbered posters
12:15 – 12:45 pm ..... Lunch break for even-numbered posters
3:30 pm ..... Remove all Thursday posters

APPI
004 - 011

ThP 004 **Role of Non-Ionizing Photon Absorption in the Observed Mass Spectra Produced by an Atmospheric Pressure Photoionization – LCMS Source;** Rob O'Brien[1]; Amanda Furgeson[1]; David Arkinstall[1]; *[1]UBC Okanagan, Kelowna, Canada; [2]Okanagan Regional Chemical Analysis Centre, Kelowna, Canada*

ThP 005 **Electron Capture-Atmospheric Pressure Photoionization Mass Spectrometry: Analysis of Fullerenes, Perfluorinated Compounds, and Pentafluorobenzyl Derivatives**; Liguo Song; Amber D Wellman; Huifang Yao; Jamie Adcock; *University of Tennessee, Knoxville, TN*

ThP 006 **Cluster Size-Distributions at Liquid Surface and In Vapor Observed for Pure Alcohols and Alkanes by Liquid Ionization Mass Spectrometry**; Masahiko Tsuchiya[1]; Yasuo Shida[2]; Haruhiko Fukaya[2]; Masaki Shinoyama[3]; Shoichi Okouchi[3]; *[1]Yokohama National University, Yokohama, Japan; [2]Toyaku University, Tokyo, Japan; [3]Hosei Univesity, Tokyo, Japan*

ThP 007 **Collisionally-Induced Dissociation of Propionitrile under APPI Mass Spectrometry: Evidence of an Intramolecular 1,3-Hydrogen Shift and Hydrogen Migration**; Patrick Jeanville[2]; Lauren Elizabeth J-Rivera[2]; Colizza Kevin[1]; Amin Kamel[1]; *[1]Pfizer, Inc., Groton, CT; [2]Thermo Electron Corporation, West Palm Beach, FL*

ThP 008 **Determination of the Distribution of Ion Acceptance (DIA) of Atmospheric Pressure Ionization Sources**; Walter Wissdorf; Matthias Lorenz; Klaus J Brockmann; Oliver J Schmitz; Sigmar Gaeb; Thorsten Benter; *University of Wuppertal, Wuppertal, Germany*

ThP 009 **Quantitation of 8-Hydroxydeoxyguanosine in DNA by Liquid Chromatography-Positive Atmospheric Pressure Photoionization Tandem Mass Spectrometry**; Fagen Zhang; William T. Stott; Amy J. Clark; Joy J. Grundy; Melissa R. Schisler; B. Bhaskar Gollapudi; Michael J. Bartels; *The Dow Chemical Company, Midland, MI*

ThP 010 **Atmospheric Pressure Photoionization of Peptides**; Alexandre J. Giuliani[1]; Aicha Bagag[2]; Olivier Laprevote[2]; *[1]Synchrotron Soleil, Gif-sur-Yvette, France; [2]CNRS-ICSN, Gif-sur-Yvette, France*

ThP 011 **Comparison of Atmospheric Pressure Ionization (API) Techniques for the Analysis of Organophosphorus Compounds**; Peter L Kelsey; Bart A O'Brien; *Midwest Research Institute, Kansas City, MO*

INSTRUMENTATION: ION SOURCES II
012 - 028

ThP 012 **Calibrant and Reagent Ion Introduction for Mass Spectrometry**; Bradley B. Schneider; Thomas R. Covey; *MDS Sciex, Concord, Canada*

ThP 013 **Detecting Compounds of Dissimilar Ionization Using Dual Source Ionization for Increased Throughput**; Holly Shackman; *Shimadzu Scientific, Columbia, MD*

ThP 014 **Electrospray Ionization Hybridized with Laser Desorption, Pyrolysis, Thermal Evaporation, and Pneumatic Nebulization for Gaseous, Microdroplet, Liquid, and Solid Sample Analyses;** Lian-Chun Chen; Cha-Chun Liou; Min-Zong Huang; Jentaie Shiea; *National Sun Yat-Sen University, Kaohsiung, Taiwan*

ThP 015 **Asymmetric Steady-State Dual Nanospray Ion Source: A New Method to Introduce a Second Nanospray Ion Beam without Signal Loss**; Nicolas L. Young[1]; Micheal C. Sisto[2]; Meggie N. Young[3]; Patrick G. Grant[1]; David W. Killilea[4]; LaTasha LaMotte[2]; Kuang Jen J. Wu[1]; Carlito B. Lebrilla[1]; *[1]Lawrence Livermore National Laboratory, Livermore, CA; [2]University of California, Davis, Davis, CA; [3]Drexel University, College of Medicine, Philadelphia, PA; [4]Children's Hospital Oakland Research Institute, Oakland, CA*

ThP 016 **Complementing Novel Ionization Techniques with Voltage-Assisted Hydrodynamic Devices by Optimizing Physiochemical Parameters to Efficiently Sample Biological Specimens**; Robert B. Dixon; Xudong Xiao; Jack R. Edwards; Adam M. Hawkridge; David C. Muddiman; *North Carolina State University, Raleigh NC, NC*

ThP 017 **Evaluation of Taylor-Cone Stability and Spray-Mode Dynamics using Fused-Silica Nanospray Emitters**

with Hydrophobic Coatings; Jeffrey Wynn; Christopher J. Toher; Gary A. Valaskovic; *New Objective Inc, Woburn, MA*

ThP 018 **Unique Fragmentation Pathways Observed in Corona Discharge Electrochemical/Electrospary Ionization (ECI/ESI) MS**; John Lloyd[1]; Sonja Hess[2]; *[1]NIH, Bethesda, MD; [2]California Institute of Technology, Pasadena, CA*

ThP 019 **Infrared Particle Ablation/Ultraviolet Matrix-Assisted Laser Desorption Ionization Mass Spectrometry**; Fan Huang; Xing Fan; Kermit K. Murray; *LSU, Baton Rouge, LA*

ThP 020 **Selective Self-Generating Novel Ion ProductinTechniques for Atomspheric Pressure Mass Spectrometry**; Paul C. Goodley; *GRE, Santa Rosa, CA*

ThP 021 **Digitized Nanobore LC-MS: An Automated Control System with Emitter Divert for Column-Switching**; Mike S. Lee[1]; Gary A. Valaskovic[2]; *[1]Milestone Development Services, Newtown, PA; [2]New Objective, Inc., Woburn, MA*

ThP 022 **Symmetric and Asymmetric Fission of Electrosprayed Water Droplets**; Lloyd Zilch; Josh T. Maze; Martin F. Jarrold; *Indiana Univeristy, Bloomington, IN*

ThP 023 **Automation and Optimization of a Dual Stage Ion Funnel Electrospray Ionization Source for Whole Protein Identification**; Michael L. Easterling[1]; Jennifer S. Cobb[2]; Christian B. Berg[1]; Christopher J. Thompson[1]; Jeffrey N. Agar[2]; *[1]Bruker Daltonics, Inc., Billerica, MA; [2]Brandeis University, Waltham, MA*

ThP 024 **Demonstration of a Dual ESI/APPI Ion Source for Simultaneous Analysis of Drug, Substrate and Their Bound Complexes**; Luke C. Short; Sheng-Suan Cai; Jack A. Syage; *Syagen Technology, Inc., Tustin, CA*

ThP 025 **Controlling Charge on Trapped Drops**; Ryan T. Hilger; Michael S. Westphall; Lloyd M. Smith; *University of Wisconsin-Madison, Madison, WI*

ThP 026 **CE-ESI/MS with Miniaturized and Functionalized Nanoelectrospray Emitters**; Petr Kusý; Jana Krenková; Jakub Grym; Karel Klepárník; František Foret; *Institute of Analytical Chemistry, Academy of Scie, Brno, Czech Republic*

ThP 027 **Application of a Laser Diode Thermal Desorption (LDTD) Ion Source for Mass Spectrometry in a Drug Discovery Environment**; Kevin P. Bateman[1]; Jin Wu[1]; Sebastien Gagne[1]; Pierre Picard[2]; Sylvain Letarte[2]; *[1]Merck Frosst Canada, Montreal, Canada; [2]Phytronix, Quebec, Canada*

ThP 028 **Using Electrospray-Assisted Laser Desorption Ionization Mass Spectrometry to Detect Proteins and Biochemical Compounds Separated on Microchip and Two-Dimensional TLC Plate**; Shu-Yao Lin; Jentaie Shiea; *National Sun Yat-Sen University, Kaohsiung, Taiwan*

MALDI SAMPLE PREPARATION II
029 - 044

ThP 029 **Improving Intensity and Sensitivity of MALDI Signals by Using Nanoliter Volume Spots**; Tingting Tu[1]; Andrew D. Sauter[2]; Michael L. Gross[1]; *[1]Washington University in St. Louis, Saint Louis, MO; [2]Nanoliter,LLC, Henderson, NV*

ThP 030 **Sample Preparation: Making, Directing Nanoliters to Targets from Dispensers, Syringes and LC Columns using Electric Fields - Induction Based Fluidics;** Andrew D. Sauter III; Andrew D. Sauter, Jr; *Nanoliter, LLC, Henderson, NV*

ThP 031 **Improving Monoclonal Antibody and SCFv Protein Characterization by Obtaining Complementary MALDI-TOF-MS Spectra from a Single Tryptic Digest**; Adam W. Lucka[12]; Rekha Patel[12]; Bruce A. Andrien[12]; *[1]Alexion Pharmaceuticals, Cheshire, CT; [2]Alexion Pharmaceuticals, Cheshire, CT*

ThP 032 **Ablation of Chrysene from Different Matrix Systems using 266nm UV-MALDI**; Dirk Walbrodt; Tassilo Muskat; Juergen Grotemeyer; *Inst. f. Phys. Chem der CAU zu Kiel, Kiel, Germany*

ThP 033 **Simple and Effective Methods to Increase the Surface Sapacity for On- Probe Affinity Capture MALDI-MS**; Zaneer, M Segu; Joseph, C Mathai; Gary, R Kinsel; *Southern Illinois University, Carbondale, IL*

ThP 034 **EC-Affinity™ MALDI Biochips for Immunoaffinity Mass Spectrometry by MALDI-TOF-MS**; Mark Stolowitz[1]; Paul Lampe[2]; *[1]Stratos Biosystems LLC, Seattle, WA; [2]Fred Hutchinson Cancer Research Center, Seattle, WA*

ThP 035 **Optimized Enrichment and Detection Methodologies for the Study of Phosphopeptides of the Epidermal Growth Factor Receptor**; Amanuel Y Kehasse[1]; David H. Perlman[2]; Mark E. McComb[2]; Ilene Boucher[3]; Vickery T Randall[3]; Catherine E. Costello[1]; *[1]BUSM, Center for Biological Mass Spectrometry, Boston, MA; [2]BUSM, Cardiovascular Proteomics Center, Boston, MA; [3]BUSM, Department of Biochemistry, Boston, MA*

ThP 036 **A New Desalting Approach for MALDI MS Analysis of Oligonucleotides**; Wei-Yu Chen; Yu-Chie Chen; *Dept Applied Chemistry, National Chiao Tung Univ., Hsinchu, Taiwan*

ThP 037 **Functionalized MALDI Surface for Specific Detection of Glycopeptides**; Mohammed Kajjout; Caroline Tokarski; Séverine Le Gac; Christian Rolando; *Univ. des Science/Tech de Lille, Villeneuve d'Ascq, France*

ThP 038 **Use of High-Capacity Polymer Brushes Immobilized on MALDI Plates and Magnetic Beads for the Analysis of Phosphopeptides by MS**; Jamie D. Dunn; Fei Xu; Gavin E. Reid; Merlin L. Bruening; *Michigan State University, East Lansing, MI*

ThP 039 **Serine Enhances and Improves Peptide Ion Signals in MALDI MS**; Mitsuo Takayama; Takashi Nishikaze; *Yokohama City University, Yokohama, Japan*

ThP 040 **Investigation of Liquid MALDI and Optimization for Instrument Tuning and Quantitative Measurements**; Magnus Palmblad; Mark Towers; Rainer Cramer; *The University of Reading, Reading, UK*

ThP 041 **Nanoprobe-Based Affinity Mass Spectrometry for Multiplexed Immunoassay in Human Plasma**; Kai-Yi Wang[1]; Li-Shing Huang[1]; Po-Chiao Lin[2]; Shu-Hua Chen[1]; Hsin-Kai Liao[1]; Chun-Cheng Lin[3]; Yu-Ju Chen[1]; *[1]Institute of Chemistry, Academia Sinica, Taipei, Taiwan; [2]CBMB, TIGP, Academia Sinica, Taipei, Taiwan; [3]National Tsing-Hua University, Hsinchu, Taiwan*

ThP 042 **Functionalized Magnetic Nanoparticles for Small Molecule Isolation, Identification and Quantification using MALDI-TOF Mass Spectrometry**; Mei-chun Tseng[1]; Po-Chiao Lin[2]; An-Kai Su[1]; Yu-Ju Chen[1]; Chun-Cheng Lin[2]; *[1]Insititue of Chemistry, Academia Sinica, Taipei, Taiwan; [2]Insititue of Chemistry, Tsing Hua University, Hsinchu, Taiwan*

POSTER SPACE

ThP 043 **Plastic MALDI Chips (pMALDI): Enhancing Protein Analysis using High-Density Polymer Micro Array in Combination with MALDI-TOF/MS**; Alfredo J. Ibáñez; Vincentius A. Halim; Rohit Shroff; Alexander Muck; Aleš Svatoš; *Max Planck Institute for Chemical Ecology, Jena, Germany*

ThP 044 **Application of Non-Fouling Surfaces in MALDI Mass Spectrometry**; Lijuan Peng; Gary R. Kinsel; *Southern Illinois University, Carbondale, IL*

INSTRUMENTATION: QUADRUPOLES & ION TRAPS II
045 - 060

ThP 045 **Simulations of the Field Distributions and the Performance of Printed Circuit Board Ion Trap Mass Spectrometer (PCB IT-MS)**; Chuan-Fan Ding; Gongyu Jiang; Igor Filippov; Chan Luo; Peng Yang; Xiaoxu Li; *Fudan University, Shanghai, CHINA*

ThP 046 **Ion-Ion Reactions using a Home-Built, Research-Grade Linear Ion Trap Mass Spectrometer**; Matthew W. Soyk[1]; Qin Zhao[1]; Gregg M. Schieffer[1]; R.S. Houk[1]; Ethan R. Badman[2]; *[1]Iowa State University, Ames, IA; [2]Hoffmann-La Roche Inc., Nutley, NJ*

ThP 047 **On Line Aerosol MALDI Mass Spectrometer using Digital Quadrupole Ion Trap**; Hideya Koizumi; Peter T. A. Reilly; William A. Harris; William B. Whitten; *Oak Ridge National Laboratory, Oak Ridge, TN*

ThP 048 **Microscopy-Based Mass Measurement of a Single Whole Virus in a Cylindrical Ion Trap**; Huan-cheng Chang; *Institute of Atomic & Molecular Sciences, Taipei, TAIWAN*

ThP 049 **A Faster Method of Tandem Mass Spectrometry for Forensic, Clinical and Biological Applications;** Glen Jackson; Unige A. Laskay; Carolyn M. Zimmermann; Olivier L. Collin; *Ohio University, Athens, OH*

ThP 050 **Multi-Source Linear Ion Trap for Ion/Ion Reactions and Multiple Activation Methods**; David E. Erickson[1]; Jason M. Hogan[2]; Chris Doerge[1]; Min He[3]; Scott A. McLuckey[1]; *[1]Purdue University, West Lafayette, IN; [2]Fred Hutchinson Cancer Research Center, Seattle, WA ; [3]Thermo Electron, San Jose, CA*

ThP 051 **Characterisation of Mass Selective Axial Ejection from a Linear Ion Trap with Superimposed Axial Quadratic DC Potential;** Martin Green; Garry Scott; Robert Bateman; *Waters Corporation, Manchester, United Kingdom*

ThP 052 **Mass Selective Axial Ejection by Controllable DC Field for Effective Extraction;** Masuyuki Sugiyama; Hideki Hasegawa; Yuichiro Hashimoto; *Hitachi, Ltd.,Central Research Laboratory, tokyo, JAPAN*

ThP 053 **Ion Guide and Quadrupole Mass Filters Employing a Digitally Controlled Waveform**; David J Rousell; Roger Giles; *Shimadzu Research Laboratory (Europe), Manchester, United Kingdom*

ThP 054 **Miniature Cylindrical Ion Trap with Transparent Endcap Electrodes for Single Nanoparticle Mass Measurement**; Zongxiu Nie; *Institute of Atomic & Molecular Sciences, Taipei, Taiwan*

ThP 055 **Fragmentation Efficiency and Ion Excitation Frequencies in a Linear Quadrupole Ion Trap with an 8% Added Hexapole Field;** Ori Granot; D. J. Douglas; *The University of British Columbia, Vancouver, BC, Canada*

ThP 056 **Development of Proton Transfer Reaction - Linear Ion Trap (PTR-LIT) Mass Spectrometry for the Quantification Of Isobaric Volatile Organic Compounds;** Levi H Mielke[1]; David E Erickson[1]; Scott A McLuckey[1]; Armin Wisthaler[2]; Armin Hansel[2]; Chritopher H Doerge[1]; Paul B Shepson[1]; *[1]Purdue University, West Lafayette , IN; [2]Universität Innsbruck, Innsbruck, Austria*

ThP 057 **Mass Analysis with Linear Quadrupole with Added Hexapole Fields: Experiments and Simulations**; Zilan Xiao[1]; XianZhen Zhao[1]; D. J. Douglas[1]; N. V. Konenkov[2]; *[1]University of British Columbia, Vancouver, Canada; [2]Ryazan State Pedagogical University, Ryazan, Russia*

ThP 058 **An Ion Guide Study: Quadrupoles, Hexapoles, Octopoles and Rectilinear Quadrupoles**; Randy Pedder; Ted Novak; Samantha Kunkle; *Ardara Technologies L.P., Ardara, PA*

ThP 059 **Experimental Investigation of Mass Analysis with Linear Quadrupoles with Added Multipole Fields Operated in Islands of Stability**; XianZhen Zhao[1]; Zilan Xiao[1]; Annie Moradian[1]; Donald J. Douglas[1]; Nikolai V. Konenkov[2]; *[1]University of British Columbia, Vancouver, Canada; [2]Ryazan pedagogical University, Ryazan, Russia*

ThP 060 **Characterisation of a Novel Axially Focusing Miniature Linear Ion Trap for Mass Spectrometry**; Gareth S. Dobson; Christie G. Enke; *University of New Mexico, Albuquerque, NM*

ION ACTIVATION DISSOCIATION: APPLICATIONS
061 - 075

ThP 061 **Enhanced CID Efficiency of Brevetoxins and Unraveling of Novel Fragmentation Pathways in Negative Ion Electrospray Mass Spectrometry**; Weiqun Wang; Richard B. Cole; *University of New Orleans, New Orleans, LA*

ThP 062 **Investigations of the Mechanism of the "Proline Effect" in Mass Spectrometry Peptide Fragmentation Experiments;** Mary Disa Raulfs[1]; Linda Breci[2]; John C. Poutsma[1]; Vicki Wysocki[2]; *[1]College of William & Mary, Williamsburg, VA; [2]University of Arizona, Tucson, Az*

ThP 063 **ESI/CID Studies of Enterobactin and Enterobactin/Metal Ion Complexes**; Fatma Tuba Gozet; Diethard Kurt Bohme; *Department of Chemistry, York University, Toronto, ON*

ThP 064 **Reaction of Organosilicon on a Tungsten Surface at Elevated Temperature**; Masato Kiuchi[1]; Takae Takeuchi[2]; Satoru Yoshimura[3]; Akinori Toh[3]; Takahiro Toyoshima[3]; Satoshi Hamaguchi[3]; *[1]AIST, Osaka, JAPAN; [2]Nara Women's University, Nara, Japan; [3]Osaka University, Suita, Japan*

ThP 065 **Evaluation of Sulphonication as a Sequence-Tag Stratagem of Protein Identification on a Novel, "Zoom Optics", MALDI-ToF-ToF Instrument;** D J Evason; M D Mills; V C Parr; S P Thompson; *SAI, Manchester, United Kingdom*

ThP 066 **Investigation of the Complexes of Chromium with Acidic Peptides**; Dan Pu; *University of Alabama, Tuscaloosa, Tuscaloosa, AL*

ThP 067 **Comparison of CAD, IRMPD, and EID for Identification and Structural Characterization of Phosphate Metabolites**; Hyun Ju Yoo; Haichuan Liu; Kristina Hakansson; *University of Michigan, Ann Arbor, MI*

ThP 068 **Investigating the Effects of the HIV-1 Nucleocapsid Protein on RNA Isomerization by Tandem Mass Spectrometry**; Kevin B. Turner[1]; Nathan A. Hagan[2]; Daniele Fabris[1]; *[1]University of Maryland Baltimore*

County, Baltimore, MD; [2]Johns Hopkins University, APL, Laurel, MD

ThP 069 **A New MALDI Matrix for Studying Copper Binding Peptides**; Zhaoxiang Wu; David H Russell; *TAMU, College Station, TX*

ThP 070 **Rapid Identification and Characterisation of Tryptic Peptides using High Linear Velocity Nanobore UPLC MALDI MS/MS and Ion Mobility Separation**; Marten Snel; Emmanuelle Claude; Iain Campuzano; Therese McKenna; James Langridge; *Waters Corp, Manchester, United Kingdom*

ThP 071 **Super-Critical Fluid Chromatography (SFC) with Tandem Mass Spectrometry (MS/MS) to Evaluate the Absorption and Delivery of Individual Stereoisomers**; QingPing Han; Xu Zhang; David P. Budac; Mark J. Hayward; *Lundbeck Research US, Paramus, NJ*

ThP 072 **Mechanisms of Cross-linking Reactions of Genipin with β-Lactoglobulin and Related Peptides by MALDI-TOF/TOF Mass Spectrometry**; Alberto Nunez; Phoebe Qi; *USDA-ARS-ERRC, Wyndmoor, PA*

ThP 073 **CID of Metal-Ion Adducts of Protected Amino Acids Coupled to Crown Ethers**; Ryan Dain; Maryna Popp; Chris Leavitt; Michael Kullman; Michael J. Van stipdonk; *Witchita State University, Wichita, KS*

ThP 074 **Comparison of Peptide Quantitation with NanoLC/ESI and MALDI MRM**; Bradley B. Schneider[2]; Christie L. Hunter[1]; Matthew Champion[1]; Tina Settineri[1]; Thomas R. Covey[2]; *[1]Applied Biosystems, Foster City, CA; [2]MDS SCIEX, Concord, Ontario, Canada*

ThP 075 **Fragmentation of Acidic Ru(II) and Os(II) Complexes in the Gas-Phase**; Janne Janis; Minna Jakonen; Larisa Oresmaa; Matti Haukka; Pirjo Vainiotalo; *University of Joensuu, Joensuu, Finland*

PEPTIDES: FRAGMENTATION & SEQUENCING 076 - 091

ThP 076 **Characterization and Sequencing of Histone Proteins by Ion Mobility Tandem Mass Spectrometry**; Hye Ryung Jung[1]; James Langridge[2]; Chris Hughes[2]; Ole Nørregaard Jensen[1]; *[1]University of Southern Denmark, Odense, Denmark; [2]Waters corporation, Manchester, UK*

ThP 077 **Observing Immonium and Related Mass Ions using Thermally-Assisted Infrared Multiphoton Photodissociation in a Quadrupole Ion Trap Mass Spectrometer**; G. Asher Newsome; Gary L. Glish; *Univeristy of North Carolina, Chapel Hill, NC*

ThP 078 **Impact of Pro and Asp Residues on the Dissociation of Intermolecularly Crosslinked Peptides**; Myles W. Gardner; Jennifer S. Brodbelt; *The University of Texas at Austin, Austin, TX*

ThP 079 **Investigating the Sequence of a Novel Cyclic Lantibiotic Peptide, Paenibacillin, with Mass Spectrometry and Nuclear Magnetic Resonance (NMR)**; Liwen Zhang[1]; Zengguo He[2]; Chunhua Yuan[3]; Kari B. Green-Church[1]; Ahmed E. Yousef[2]; *[1]MS&P Facility, the Ohio State University, Columbus, OH; [2]Department of Food Science & Technology, OSU, Columbus, OH; [3]NMR Laboratory, the Ohio State University, Columbus, OH*

ThP 080 **Oxidation vs Carboxymethylation of S-S Bond in Frog Peptides: Pro and Contra for *de novo* MALDI-MS Sequencing**; Tatiana Yu. Samgina; Konstantin A. Artemenko; Vladimir A. Gorshkov; Albert T. Lebedev; *Department of Chemistry, Moscow State University, Moscow, Russian Federation*

ThP 081 **Structure Elucidation of Natural Glycosylated Cyclic Peptides by CID, IRMPD, and ECD Using a 9.4 Tesla FTMS**; Xidong Feng; Haiyin He; Melissa Wagenaar; *Wyeth Research, Pearl River, NY*

ThP 082 **Metal Ion Complexes of Diasteroisomeric Cyclic Peptides c-(Lys-D/L-His-ß-Ala-His) with Copper, Zinc and Nickel**; Gianluca Giorgi[1]; Luigi Messori[2]; Mauro Ginanneschi[3]; *[1]University of Siena, Department of Chemistry, Siena, Italy; [2]University of Florence, Department of Chemistry, Florence, Italy; [3]University of Florence, Dept. of Organic Chemistry, Florence, Italy*

ThP 083 **LTQ-FT and LTQ-ORBItrap: A Comparison of the Accurate Mass MS/MS Capabilities;** Matthew T. Mazur; Fanyu Meng; Robert E. Settlage; Kai Zhou; Yi Du; Ekaterina G. Deyanova; Nathan A. Yates; Ronald C. Hendrickson; *Merck Research Labs, Rahway, NJ*

ThP 084 **M/z 58 – A Marker Ion for Di- and Trimethylated Lysine Residues in High-Energy CID Spectra of Protonated Peptides**; DieterR Mueller; Debora Bonenfant; Bruno Inverardi; Patrick Schindler; Annick Waldt; Urs Wirth; Jan van Oostrum; *Novartis, Basel, Switzerland*

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ThP 086 **Undesired Products Formed During Iodoacetamide Derivatization of Sulfhydryl Groups of Peptides**; Athula B. Attygalle; Zhihua Yang; *Stevens Institute of Technology, Hoboken, NJ*

ThP 087 ***De novo* Protein Sequencing via Assembly of High Resolution MS/MS Spectra from Overlapping Peptides**; Nuno Bandeira[1]; Karl Clauser[2]; Pavel Pevzner[1]; *[1]University of California, San Diego, La Jolla, CA; [2]Broad Institute, Cambridge, MA*

ThP 088 **Improving Proteomics by Increasing the Accuracy of Peptide Fragmentation Spectrum Prediction**; Predrag Radivojac; Pedro Alves; Kang Peng; Haixu Tang; Randy J. Arnold; *Indiana University, Bloomington, IN*

ThP 089 **Optimizing Data Acquisition for Automated *de novo* Sequencing**; Iain Rogers[1]; Gary Woffendin[2]; Michaela Scigelova[2]; *[1]Bioinformatics Solutions, Waterloo, Canada; [2]Thermo Fisher Scientific, Hemel Hempstead, United Kingdom*

ThP 090 **Sequence Analysis of Endogenous Peptides Found In Human Plasma**; Ekaterina G. Deyanova; Nathan A. Yates; Ronald C. Hendrickson; *Merck Research Laboratories, Rahway, NJ*

ThP 091 **Top-down Insect Neuropeptide Analysis with nano-LC and a 14.5 T FT-ICR Mass Spectrometer**; Peter D. Verhaert[1]; Mark R. Emmett[2]; Tanner M. Schaub[2]; Martijn W. Pinkse[1]; Carol L. Nilsson[2]; *[1]Delft University of Technology, Delft, Netherlands; [2]NHMFL, Tallahassee, Florida*

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ThP 093 **Imaging Mass Spectrometry Revealed the Distinct Distribution and Developmental Change of Ganglioside Molecular Species in the Mouse Hippocampus**; Yuki Sugiura[1]; Shuichi Shimma[2]; Yoshiyuki Konishi[3]; Hiroshi Ageta[3]; Takashi Nirasawa[4]; Mitsutoshi Setou[2]; *[1]Department of Bioscience and*

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Biotechnology, Tokyo, Yokohama, JAPAN; [2]Okazaki Institute for Integrative Bioscience, Okazaki, JAPAN; [3]MITILS, Tokyo, Japan; [4]Bluker Daltonics, Kanagawa, Japan

ThP 094 **Mass Spectrometric Imaging of Cultured Neurons from *Aplysia californica***; Michael P. Napolitano; Peter Lovell; Leonid L. Moroz; Richard A. Yost; *University of Florida, Gainesville, FL*

ThP 095 **Imaging of Small Molecules in Tissue Sections using MALDI MS**; Anna Nilsson[1]; Sören-Oliver Deininger[2]; György Marko-Varga[3]; Thomas Fehniger[3]; Stefan Eirefelt[3]; Kerstin Kenne[3]; Lena Gustavsson[3]; Per E. Andren[1]; *[1]Uppsala University, Uppsala, Sweden; [2]Bruker Daltonics, Bremen, Germany; [3]Astrazeneca, Lund and Sodertalje, Sweden*

ThP 096 **Multilevel MALDI MS Tissue Imaging of Pharmaceuticals**; Fangbiao Li; Lee Crossman; Xiaoming Cui; Ian Knemeyer; Morrison Richard; Yunsheng Hsieh; Walter Korfmacher; *Schering-Plough Research Institute, Kenilworth, NJ*

ThP 097 **MALDI-TOF-MS Imaging of Lipids in Rat Brain Tissue with Integrated Unsupervised and Supervised Multivariant Statistical Analysis;** Paul J Trim[1]; Sally J Atkinson[1]; Peter S Marshall[2]; Andrew West[2]; Malcolm R Clench[1]; *[1]Sheffield Hallam University, Sheffield, United Kingdom; [2]GlaxoSmithKline, Stevenage, United Kingdom*

ThP 098 **Imaging of Drugs, Metabolites and Proteins in Tissue via MALDI, SIMS and LA-ICP Mass Spectrometry**; Josephine Bunch[1]; Hazel Dickson[1]; Jaume Seuma[1]; Cameron McLeod[1]; Julia E. Wingate[2]; Tony Carado[3]; Joseph Kozole[3]; Nicholas Winograd[3]; *[1]The University of Sheffield, Sheffield, United Kingdom; [2]Applied Biosystems/MDS Sciex, Concord, Canada; [3]Penn State University, State College, Pa*

ThP 099 **Clozapine Distribution in Rat Brain and Lung: A Comparison of Imaging by DESI-MS vs LC MS/MS Analysis of Brain Homogenates**; Justin M. Wiseman[1]; Candice Kissinger[2]; Demian R. Ifa[3]; Candace Rohde[2]; James Burleigh[2]; Simon Katner[2]; Bruce Solomon[2]; Yongxin Zhu[2]; R. Graham Cooks[3]; *[1]Prosolia, Inc., Indianapolis, IN; [2]Bioanalytical Systems Inc., West Lafayette, IN; [3]Purdue University, West Lafayette, IN*

ThP 100 **Use of Imaging Tandem Mass Spectrometry for the Elucidation of Chemical Species Related to Age-Related Macular Degeneration (AMD)**; Timothy J Garrett; William W Dawson; Richard A Yost; *University of Florida, Gainesville, FL*

ThP 101 **ToF-SIMS Imaging Allows Lipid Mapping of Human Dystrophic and Control Muscle Sections**; Nora Tahallah[1]; Alain Brunelle[1]; Sabine De La Porte[2]; Olivier Laprévote[1]; *[1]Lab. de Spectrométrie de Masse - ICSN-CNRS, Gif sur Yvette, FRANCE; [2]Lab. Neurobiol. Cell. et Mol. - INAF-CNRS, Gif sur Yvette, France*

ThP 102 **MALDI MS Imaging to Reveal Distribution of Benzodiazepine Drug and Metabolite Molecules in Rat Brain**; Tomoyuki Ohkawa; Josephine Bunch; *The University of Sheffield, Sheffield, United Kingdom*

ThP 103 **The Distribution of Metabolites of Di-(2-ethylhexyl) Phthalate on a Whole Rat by Imaging MS using a MALDI Ion Trap**; Timothy A. Snow[1]; Mari Prieto Conaway[2]; H. Bui[2]; William J. Fasano[1]; LaRue Manning[1]; *[1]DuPont Haskell Laboratory, Newark, DE; [2]Thermo Fisher Scientific, San Jose, CA*

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ThP 104 **Applying Imaging ToF-SIMS and PCA in Differentiation of Mouse Embryo Tissue Types**; Ligang Wu[1]; Elena S.F Berman[1]; Kris S. Kulp[1]; James S. Felton[1]; Kuang Jen J. Wu[1]; *[1]Lawrence Livermore National Lab, Livermore, CA; [2]UC Davis, Davis, CA*

ThP 105 **Phospholipid Imaging by MALDI Mass Spectrometry – Application to Renal Cell Carcinoma**; Satu M. Puolitaival; Stephen B. Milne; H. Alex Brown; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*

ThP 106 **Dynamic Pharmaco Metabolome of Mouse Brain with Precise Bio-Molecule Identification by MALDI QIT-TOF Based High Resolution MS Microscopy**; Kiyoshi Ogawa[1]; Hideaki Izumi[1]; Takahiro Harada[1]; Sadao Takeuchi[1]; Yoshikazu Yoshida[1]; Yuki Sugiura[2]; Mitsutoshi Setou[2]; *[1]Shimadzu Corporation, Kyoto, JAPAN; [2]National Institute of Physiological Sciences, Okazaki, Japan*

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ThP 110 **Simple and Rapid Analysis of Chloramphenicol in Milk with LC-MS-MS**; Ting Liu[12]; Peter Wang[12]; Kefei Wang[12]; *[1]Thermo Fisher Scientific, Shanghai, China; [2]Thermo Fisher Scientific, San Jose, CA*

ThP 111 **When You Do Want Keratin in Your Samples - Identification of Proteins in the Wool Keratin Family**; Stefan Clerens; Jeffrey E. Plowman; *AgResearch, Lincoln, New Zealand*

ThP 112 **Determination of Sulfamerazine, Sulfamethoxazole, Sulfadimethoxine and Sulfamethazine Residues in Milk using LDTD-MS/MS Detection**; Patrice Tremblay[1]; Pierre Picard[1]; Luc Gagnon[2]; Serge Fortier[2]; *[1]Phytronix Technologies, Quebec, Canada; [2]MAPAQ, Quebec, Canada*

ThP 113 **On-line HPLC-HRGC Coupling: a New Fully Automated Method for the Determination of Pesticides in Vegetable Samples;** Josep Maria Gibert[2]; Ariadna Galve[1]; Roger Gibert[1]; Nieves Sarrion[1]; *[1]KONIK-Tech, Sant cugat del Vallès, Spain; [2]KONIK Instruments, Miami, Florida*

ThP 114 **Rapid Multi-Residue Screening for the Veterinary Drugs in Meat by Supercritical Fluid Extract Combined with Liquid Chromatography-Tandem Mass Spectrometry**; Masahiko Takino[1]; Jerry Zweigenbaum[2]; Yukiko Ono[3]; Masahiro Yuki[3]; *[1]Agilent Technologies Japan, LTD., Tokyo, JAPAN; [2]Agilent*

Technologies, wilmington, DE; [3]Nishikawa keisoku Co., LTD, Yokohama, Japan

ThP 115 **Quick Screening and Quantification of Water-soluble Vitamins Using Rapid Resolution LC/MS/MS**; Sheher Mohsin; *Agilent Technologies, Schaumburg, IL*

ThP 116 **Hydroponic Isotope Labelling of Entire Plants (HILEP) for Quantitative Plant Proteomics**; Laurence V. Bindschedler; Magnus Palmblad; Rainer Cramer; *The University of Reading, Reading, UK*

ThP 117 **Multiplexed Quantitative Proteomics Using Differential Metabolic ^{15}N-Labeling**; Magnus Palmblad; Laurence V. Bindschedler; Rainer Cramer; *The University of Reading, Reading, United Kingdom*

ThP 118 **Separation and Quantitation of Ergot Alkaloids in Forage Animal Vein Tissue**; Wilson D. Shafer[1]; Darrin Smith[1]; Lori L. Smith[2]; James L. Klotz[2]; James L. Strickland[2]; *[1]Eastern Kentucky University, Richmond, KY; [2]USDA-ARS, Forage Animal Production Research Unit, Lexington, KY*

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ThP 121 **Quantitative Analysis on Beer Proteins using Isotopically-Coded Labeling Coupled with HPLC and Mass Spectrometry**; Yuwei Qian[1]; Marta Izydorczyk[2]; Werner Ens[1]; Sharon Bazin[2]; Oleg Krokhin[1]; Vic Spicer[1]; Kenneth Standing[1]; *[1]University of Manitoba, Winnipeg, MB, CANADA; [2]Canadian Grain Commission, Winnipeg, MB, Canada*

ThP 122 **Reliable Multi-Target Analysis of Pesticides by HPLC-ESI-TOF**; David Arraez-Ramon[1]; Petra Decker[2]; Ilmari Krebs[2]; Gabriela Zurek[2]; Carsten Baessmann[2]; Antonio Segura-Carretero[1]; Alberto Fernandez-Gutierrez[1]; *[1]University of Granada, Granada, Spain; [2]Bruker Daltonik GmbH, Bremen, Germany*

ThP 123 **Proteomics of Medicago Truncatula Vacuoles using 2D LC-MS/MS**; Zhentian Lei; Bonnie S. Watson; Mohamed Bedair; Lloyd W. Sumner; *The Samuel Roberts Noble Foundation, Ardmore, OK*

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ThP 127 **Elemental Analysis of Fulvic Acids of Shilajit using Ultra High Resolution Mass Spectrometry**; Khalid Anwer[1]; Matthias Witt[2]; Boris Koch[3]; Suraj Agarwal[1]; Asgar Ali[1]; Jasmin Sultana[1]; Rajesh Khanna[1]; *[1]Jamia Hamdard University, New Delhi, India; [2]Bruker Daltonik GmbH, Bremen, Germany; [3]Alfred-Wegener-Institute for Marine Research, Bremerhaven, Germany*

ThP 128 **Determination of Pyrethroid Pesticide Residues from Rat Tissue using Two-Dimensional LC/MS**; Edward J. Scollon[1]; James M. Starr[2]; Michael F. Hughes[1]; Michael J. DeVito[1]; Witold M. Winnik[3]; *[1]US EPA/ORD/NHEERL/ETD, Research Triangle Park, NC; [2]US EPA/ORD/NERL/HEASD, Research Triangle Park, NC; [3]US EPA/ORD/NHEERL/ECD, Research Triangle Park, NC*

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ThP 130 **Determination of Novel Environmental Contaminants in Effluents from Municipal Sewage Treatment Plants using LC/MS and Principal Component Analysis**; Mehran Alaee[1]; Shirley Anne Smyth[1]; Elliot Jones[2]; Christopher Borton[2]; Mark Kuracina[2]; *[1]Environment Canada, Burlington, Canada; [2]Applied Biosystems, Foster City, CA*

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ThP 134 **The Characterization of Environmentally Significant Oxidic and Sulfidic Metal Clusters using ESI FT-ICR MS**; Jeffrey Spraggins[1]; Katherine Mullaugh[1]; Julia Laskin[2]; Murray Johnston[1]; George Luther[1]; Douglas Ridge[1]; *[1]The University of Delaware, Newark, DE; [2]Pacific Northwest National Laboratory, Richland, WA*

ThP 135 **Identification, Characterization, and Quantification of Lead-Binding Proteins in a Hyperaccumulator Using HPLC-ES-MS**; Stephan Bach; Syam S. Andra; Rupali Datta; Dibyendu Sarkar; Conor P. Mullens; *University of Texas at San Antonio, San Antonio, TX*

ThP 136 **Characterization of Fulvic and Humic Acids from Different Locations by Ultrahigh Resolution Mass Spectrometry**; Matthias Witt[1]; Boris Koch[2]; *[1]Bruker Daltonik GmbH, Bremen, Germany; [2]Alfred-Wegener-Institute for Marine Research, Bremerhaven, Germany*

ThP 137 **Identification of Novel Plant Metabolites using Accurate Mass, MS/MS Data, Nanospray Technology, and Unique Isotope Pattern Recognition;** Jesse L. Balcer; Jeffrey R. Gilbert; Sara J. Linder; John D. Magnussen; Pete L. Johnson; Mark S. Krieger; *Dow AgroSciences, Indianapolis, IN*

ThP 138 **Determination of Off-Odors and Volatile Organic Compounds from Starch-Derived Biodegradable Polymers;** Enrico Davoli[1]; Giancarlo Bianchi[1]; Ettore Zuccato[1]; Fernanda Farachi [2]; Roberto Fanelli[1]; *[1]Mario*

Negri Institute, Milano, Italy; [2]Novamont S.p.A., Novara, Italy

ThP 139 **Sulfur Kinetic Isotope Effects Accompanying Decomposition of Sulfuryl Chloride During Chlorination of Organic Compounds**; Ian H. Krouse[1]; Brian Moore[2]; H. Roy Krouse[3]; *[1]Denison University, Granville, OH; [2]Wittenberg University, Springfield, OH; [3]The University of Calgary, Calgary, Alberta, Canada*

ThP 140 **Determination of Metabolites from Azo Dyes in Fungal Degradation by Capillary Electrophoresis/Electrospray Mass Spectrometry**; Xueheng Zhao; Huey-Min Hwang; *Jackson State University, Jackson, MS*

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ThP 143 **Attribution of Explosive Origin from Natural Isobaric Ion Profiles Determined by FT/MS Analysis**; Jean-Claude Tabet; Sigrid Baumgarten; Denis Lesage; Martine Barbe-Leborgne; *University P. and M. Curie, Paris Cedex O5 , France*

ThP 144 **Direct Laser Desorption of Low Vapor Pressure Chemical Warfare Agent Simulants in Both Laboratory and Field-Portable Time-of-Flight (TOF) Mass Spectrometers**; Timothy J. Cornish; Nathan A. Hagan; Alan F. Becknell; Timothy P. Lippa; Jonathan W. Boyd; Plamen A. Demirev; *Applied Physics Lab, MS:2-217, Laurel, MD*

ThP 145 **Rapid Analysis of Intact Viruses using Residue Specific Chemical Cleavage Combined with MALDI TOF MS**; Stephen Swatkoski; Nathan Edwards; Catherine Fenselau; *University of Maryland, College Park, Maryland*

ThP 146 **Combined Rapid Quantitative LC-MS/MS Method to Determine Exposure to Selected Carbamate Pesticides and Tetranitromethane**; Huijuan Zhang; Patrick Dhooge; *New Mexico Department of Health SLD, Albuquerque, NM*

ThP 147 **Rapid Detection of a Plasmid-Encoded Protein in E.coli**; Scott Russell; Nathan Edwards; Catherine Fenselau; *University of Maryland, College Park, MD*

ThP 148 **Monitoring of Gaseous Toxic Compounds in Air using a Handheld Rectilinear Ion Trap Mass Spectrometer**; Heriberto Hernandez[1]; Adam D. Keil[2]; Miriam Fico[1]; Qingyu Song[1]; Robert J. Noll[1]; Zheng Ouyang[1]; R. Graham Cooks[1]; *[1]Purdue University, West Lafayette, IN; [2]Griffin Analytical Technologies, LLC, West Lafayette, IN*

ThP 149 **Detection of Chemical Warfare Agent Degradation Products in Foods using HPLC-ICP-MS and ESI-MS**; Kevin M Kubachka[1]; Douglas T Heitkemper[2]; Joseph A Caruso[1]; *[1]University of Cincinnati, Cincinnati, OH; [2]FDA: Forensic Chemistry Center, Cincinnati, OH*

ThP 150 **High-Throughput Biological Point Detection by Portable Pyrolysis/GC/QitT-MS**; Jianwei Li; Sheng-Suan Cai; Matt Evans; Jack Syage; *Syagen Technology, Tustin, CA*

ThP 151 **Forensic Identification of Ricin by MALDI-TOF/TOF Analysis**; Frederick J. Cox[1]; E. Alex Jestel[1]; Joy M. Ginter[2]; *[1]Battelle East. Science and Tech Center, Aberdeen, MD; [2]Shimadzu Scientific Instruments, Inc., Columbia, MD*

ThP 152 **Analysis of Chemical Warfare Agents in Consumer Products by Desorption Electrospray Tandem Mass Spectrometry (DESI-MS/MS)**; Paul A. D'Agostino; Claude L. Chenier; Carmela R. Jackson Lepage; James R. Hancock; *DRDC Suffield, Medicine Hat, Canada*

ThP 153 **Identification and Discrimination of *Legionella pneumophila* Serological Groups Using MALDI-TOF Mass Spectrometry**; Michal Drevinek[1]; Vladimir Drasar[2]; *[1]Natl. Inst. for NBC Protection, Milin, Czech Republic; [2]National Legionella Reference Laboratory, Vyskov, Czech Republic*

ThP 154 **Fast and Accurate Detection of Hydrazines in Urine by a SPME / Gas Chromatography / Mass Spectrometry Method**; Nick Beninato; Patrick Dhooge; *Scientific Lab Division, New Mexico Dept of Health, Albuquerque, NM*

ThP 155 **Mass Spectral Dependence on Particle Size in Bio-Aerosol Mass Spectrometry**; Erica McJimpsey[1]; Paul Steele[2]; Michael Bogan[2]; Paul Steele[2]; Herbert Tobias[2]; Eric Gard[2]; Matthias Frank[2]; Kuang Jen Wu[2]; Carlito Lebrilla[1]; *[1]University of California, Davis, Davis, CA; [2]Lawrence Livermore National Laboratory, Livermore, CA*

ThP 156 **Rapid Confirmation of Initial Bio-Agent Detection and Identification by Tandem MS-based Proteomics**; Nathan A. Hagan; Miquel D. Antoine; Timothy Cornish; Jeffrey Lin; Andrew B. Feldman; Plamen A. Demirev; *Johns Hopkins Univ., Laurel, MD*

ThP 157 **High Throughput Sample Preparation for Atmospheric Pressure MALDI-MS for Rapid Detection and Identification of Microorganisms**; Berk Oktem; Appavu K. Sundaram; Sudeepta Shanbhag; Constance M. Murphy; Vladimir M. Doroshenko; *Science and Engineering Services Inc., Columbia, MD*

ThP 158 **Sensitivity Enhancement in the Analysis of Acidic Metabolites of Chemical Warfare Agents by Electrospray Ionization LC/MS/MS**; Doug Mawhinney; Rayman Stanelle; Elizabeth Hamelin; Robert Kobelski; *Centers for Disease Control & Prevention, Doraville, GA*

ThP 159 **Microorganism Identification by MS/MS Typing using Spectral Correlation Methods**; Jane Razumovskaya; Sergey Kurnosenko; Appravu K. Sundaram; Constance Murphy; Berk Oktem; Sue Shanbhag; Vladimir M. Doroshenko; *MassTech, Columbia, MD*

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ThP 161 **Mass Spectrometry on Wikipedia: Open Source and Peer Review**; Kermit K. Murray; *Louisiana State Univ., Baton Rouge, LA*

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ThP 164 **Small Molecules as Mathematical Partitions: Chemical-Spatial Rules**; Daniel L. Sweeney; *MathSpec, Inc., Arlington Heights, IL*

ThP 165 **Global Mass Spectral Database for Metabolomics**; Zenzaburo Tozuka[1]; Tomonori Takami[1]; Shohei Shioyama[1]; Takaaki Nishioka[2]; Masanori Arita[3]; Ryo Taguchi[3]; Masaru Tomita[4]; *[1]JCL Bioassay Co., Nishiwaki, Japan; [2]University of Kyoto, Kyoto, Japan; [3]University of Tokyo, Tokyo, Japan; [4]University of Keio, Turuoka, Japan*

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ThP 167 **Mass Spectral Database for Metabolome Analysis**; Hisayuki Horai[1]; Kazuhiro Suwa[2]; Masanori Arita[2]; Yoshito Nihei[1]; Takaaki Nishioka[3]; *[1]Keio University, Tsuruoka, Japan; [2]University of Tokyo, Kashiwa, Japan; [3]Kyoto University, Kyoto, Japan*

ThP 168 **Development and Validation of a Novel LC/MS/MS Data Review and *in-vivo* PK Processing Software**; Daniel K Jansson[1]; Larry E Elvebak[2]; *[1]Novartis Institutes for BioMedical Research Inc, Cambridge, MA; [2]Gubbs Inc, Alpharetta, GA*

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ThP 170 **Peak Deconvolution Algorithm to Improve Mass Accuracy of TOF-MS Data**; Gordana Ivosev; Eva Duchoslav; Alina DinDyal-Popescu; J.C.Yves Le Blanc; Ron Bonner; Christopher Lock; *MDS Sciex, Concord, Canada*

ThP 171 **Automatic MS/MS Methods Development using an Information Dependent Scanning Protocol to Enhance Sensitivity for High-Throughput ADME Screening and Drug Discovery;** Kevin Whalen[1]; John S. Janiszewski[1]; S.A. Ainley[2]; Wayne Lootsma[2]; E.B. Jones[3]; L.Y. Olsen[3]; Eva Duchoslav[3]; Lyle Burton[3]; *[1]Pfizer Inc, Groton, CT; [2]Sound Analytics, East Lyme, CT; [3]Applied Biosystems/Sciex, Foster City, CA*

ThP 172 **Development of the Real-Time Quantitative Analysis System**; Toshiyuki Yokosuka[1]; Kiyomi Yoshinari[1]; Atsumu Hirabayashi[2]; Naomi Manri[2]; Kinya Kobayashi[1]; *[1]Hitachi, Ltd. Hitachi Research Laboratory, Hitachi, Japan; [2]Hitachi, Ltd. Central Research Laboratory, Kokubunji, Japan*

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ThP 181 **Optimization of the Nanospray Interface for Applications in Metabolomics;** Agnieszka Kraj[1]; Theo Reijmers[1]; Rob van der Heijden[2]; Ubbo Tjaden[1]; Jan van der Greef[1]; Thomas Hankemeier[1]; *[1]Leiden University, Leiden, Netherlands; [2]Leiden/Amsterdam Center for Drug Research, Leiden, Netherlands; [3]Centre for Medical Systems Biology, Leiden, Netherlands*

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ThP 267 **Systems Biology of Glycolysis Integrated Analysis of Dynamic DNA-Protein and Protein-Protein Complexes, Transcriptomics and Metabolites**; Ville Parviainen[2]; Sakari Joenväärä[1]; Ilja Ritamo[1]; Pirkko Mattila[1]; Juha-Pekka Pitkänen[1]; Jouni Ahtinen[1]; Risto Renkonen[2]; *[1]MediCel Ltd, Helsinki, Finland; [2]University of Helsinki, Helsinki, Finland*

ThP 268 **A Local Interaction/Disruption Network using Histone Deacetylase Complex Based Proteomic Data**; Joshua M. Gilmore[1]; Mihaela E. Sardiu[1]; Laurence Florens[1]; Michael J. Carrozza[2]; Bing Lee[1]; Jerry L. Workman[1]; Michael P. Washburn[1]; *[1]Stowers Institute for Medical Research, Kansas City, MO; [2]National Institute of Environmental Health Science, Research Triangle Park, North Carolina*

ThP 269 **Reconstruction of Peptide Sequences from *de novo* Sequences and their Homologues**; Weijie Yang[1]; Denis Yuen[1]; Bin Ma[2]; Iain Rogers[1]; *[1]Bioinformatics Solutions Inc., Waterloo, Canada; [2]University of Western Ontario, London, Canada*

ThP 270 **Effects of Growth Temperature When Discriminating Bacteria using Pyrolysis Gas Chromatography Differential Mobility Spectrometry (Py-GC/DMS) and Principal Component Analysis (PCA)**; Satendra Prasad[1]; Karisa. M Pierce[2]; Hartwig Schmidt[1]; Jaya. V Rao[1]; Robert Gueth[1]; Sabine Bader[3]; Geoffrey. B Smith[1]; Robert. E Synovec[2]; Gary. A Eiceman[1]; *[1]New Mexico State University, Las Cruces, New Mexico; [2]University of Washington, Seattle, Washington; [3]University of Dortmund, Dortmund, Germany*

ThP 271 **GelKeys: A Software Application for 2D Gel Image Storage, Markup, and Sharing**; Kip L Bodi[1]; Francesca Lavatelli[5]; David H Perlman[2]; Mark E McComb[2]; James West[2]; Catherine E Costello[3]; Martha Skinner[1]; David C Seldin[4]; *[1]Amyloid Treatment and Reearch Program, BUSM, Boston, MA; [2]Cardiovascular Proteomics Center, BUSM, Boston, MA; [3]Mass Spectrometry Resource, BUSM, Boston, MA; [4]Department of Medicine, BUSM, Boston, MA; [5]Amyloid Program, University Hospital San Matteo, Pavia, Italy*

ThP 272 **First-Level Substitution-Tolerant Database Searching Accounts for Genomic Variability in the Identification of Proteins from Organisms with Poorly Characterized Genomes**; Jesús Jorrin Novo[1]; Rafael M. Navarro Cerillo[1]; Christof E. Lenz[2]; Sean Seymour[3]; *[1]University of Cordoba, Cordoba, Spain; [2]Applied Biosystems Germany, Darmstadt, Germany; [3]Applied Biosystems, Foster City, CA*

ThP 273 **Elucidation of Reasons for Unexplained Good Quality MS/MS Spectra In Proteome Studies**; Daniel C. Chamrad[1]; Gerhard Koerting[1]; Christian Stephan[2]; Helmut E. Meyer[2]; Katrin Marcus[2]; Martin Blueggel[1]; *[1]Protagen AG, Dortmund, Germany; [2]Medizinisches Proteom-Center, Bochum, Germany; [3]Bruker Daltonik GmbH, Bremen, Germany*

CARBOHYDRATES & OLIGOSACCHARIDES IV
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ThP 274 **Novel Glycomic Platform for Biomarker Analysis**; Clementine Klemm; Begona Casado; Bruno Domon; *ETH, Zürich, Switzerland*

ThP 275 **Off-line Capillary LC Coupled to a Glycan Analysis System Utilizing MALDI-QIT-TOF MS and an Observed MS_n Spectral Library**; Hiromi Ito[1]; Masako Sukegawa[1]; Shuuichi Nakaya[2]; Shinji Funatsu[2]; Akihiko Kameyama[1]; Hisashi Narimatsu[1]; *[1]Research Center for Medical Glycoscience, AIST, Tsukuba, Japan; [2]Shimadzu Corp., Nakagyo-ku, Japan*

ThP 276 **Electrospray Ionization Fourier Transform Ion Cyclotron Resonance Mass Spectrometry of Long Chain Polysaccharides**; Irina Perdivara[1]; Eugen Sisu[4]; Ioana Sisu[3]; Michael Przybylski[1]; Alina D. Zamfir[2]; *[1]University of Konstanz, Konstanz, Germany; [2]"Aurel Vlaicu" University of Arad, Arad, Romania; [3]Romanian Academy - Institute of Chemistry, Timisoara, Romania; [4]University of Medicine and Pharmacy, Timisoara, Romania*

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ThP 277 **FTICR and Ion Trap MS Define the Nature of Chemokine Heparan Sulfate Interactions**; Matthew R. Schenauer; Yonghao Yu; Matthew D. Sweeney; Julie A. Leary; *University of California, Davis, Davis, CA*

ThP 278 **Resolution Of N-Linked Glycans from Ovalbumin using Ion Mobility - Mass Spectrometry (IMS-MS)**; Manolo D. Plasencia; Samuel I. Merenbloom; Stormy L. Koeniger; Dragan Isailovic; Yehia Mechref; David E. Clemmer; *Indiana University, Bloomington, IN*

ThP 279 **Heparin-Protein Binding: An Interaction Model Emerging from a Combinatorial Approach**; Rinat R. Abzalimov; Paul L. Dubin; Igor A. Kaltashov; *University of Massachusetts, Amherst, MA*

ThP 280 **Developing a Strategy for LC-MS Analysis of Glycopeptides Using Alpha-1-Acid Glycoprotein (AAG)**; Melanie M. Ivancic[1]; Himanshu S. Gadgil[1]; David M. Hambly[1]; Gary D. Pipes[1]; H. Brian Halsall[2]; Michael J. Treuheit[1]; *[1]Amgen Inc., Thousand Oaks, CA; [2]University of Cincinnati, Cincinnati, OH*

ThP 281 **Profiling Bacterial Fermentation of Fructoligosaccharides (FOS) by MALDI-FTICR MS**; Mariana Barboza; Richard R. Seipert; Riccardo G. LoCascio; David A. Mills; Carlito B. Lebrilla; *University of California Davis, Davis, CA*

ThP 282 **Chip-based Normal Phase LC/MS for Glycomics of N-Linked Glycans And Glycosaminoglycans**; Alicia M. Hitchcock[1]; Michael J. Bowman[1]; Catherine E. Costello[1]; James Lau[2]; Rudolf Grimm[2]; Joseph Zaia[1]; *[1]Boston University, Boston, MA; [2]Agilent Technologies, Inc., Santa Clara, CA*

ThP 283 **An LC/MS Platform for Glycomics Analysis of *Caenorhabditis elegans* Glycosaminoglycans**; Gregory O Staples; Mike J. Bowman; Nancy Leymarie; Catherine E. Costello; John F. Cipollo; Joseph Zaia; *Boston University School of Medicine, Boston, MA*

ThP 284 **Ion mobility Coupled with TOF MS for the Automated Assignment of Glycoconjugates in the Urine of Patients with Inherited Disorders**; Sergey Y. Vakhrushev[1]; James Langridge[2]; Chris Hughes[2]; Ian Campuzano[2]; Hans Vissers[2]; Therese McKenna[2]; Jasna Peter-Katalinic[1]; *[1]Institute for Medical Physics and Biophysics, Muenster, Germany; [2]Waters Corporation, Manchester, UK*

ThP 285 **Rapid Automated Identification of Urine Glycoconjugates by Ion Mobility Separation MS and MS/MS and Computer Assignment**; Sergey Y. Vakhrushev[1]; Chris Hughes[2]; James Langridge[2]; Ian Campuzano[2]; Hans Vissers[2]; Therese McKenna[2]; Jasna Peter-Katalinic[1]; *[1]Institute for Medical Physics and Biophysics, Muenster, Germany; [2]Waters Corporation, Manchester, UK*

ThP 286 **Analysis of N-linked Glycans from Human Plasma by IMS-MS**; Sarah Trimpin; Manolo Plasencia; Dragan Isailovic; Samuel Merenbloom; Yehia Mechref; Milos Novotny; David Clemmer; *Indiana University, Bloomington, IN*

ThP 287 **Use of Isomeric Butyl Ketoximes in the Identification of Isomeric Fructosylamino Acids by Gas-Liquid Chromatography/Triple Quadrupole Mass Spectrometry;** Thomas P. Mawhinney; Deborah L. Chance; Valeri V. Mossine; Nancy Cassity; James K. Waters; *University of Missouri, Columbia, MO*

ThP 288 **Enhanced Neutral Glycan Separation via Mobile Phase Optimization**; Samantha Phan; Sharon Gao; Alex Buko; *Biogen Idec, San Diego, CA*

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ThP 289 **Application of Column-Switching With Ultra High Performance Liquid Chromatography for the Quantitative Analysis of Pharmaceuticals In Plasma**; Guenter Boehm[1]; Michel Wagner[2]; Emmanuel Varesio[2]; Chantal Grivet[2]; Gerard Hopfgartner[2]; *[1]Thermo Scientific, Basel, Switzerland; [2]University of Geneva, Geneva, Switzerland*

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ThP 291 **Ambient Temperature Effects on Quantitative Bioanalytical LC-MS/MS Analysis**; John D. Sowell; Michael S. Alexander; *Bioanalytical Systems, Inc., McMinnville, OR*

ThP 292 **Simultaneous Metabolite Identification and Quantitation of Parent Drug using Reverse Energy Ramp Scanning on a Triple Stage Quadrupole Mass Spectrometer**; Qin Yue[1]; Louis Maljers[2]; Yan Chen[2]; YungHsiang Chen[1]; Patrick Rudewicz[1]; *[1]Genentech, Inc, South San Francisco, CA; [2]ThermoFisher, Inc, San Jose, CA*

ThP 293 **Sensitive Assays using SPE and HILIC-LC-MS/MS for Quantification of Oseltamivir and Zanamivir – the Birdflu Drugs**; Niklas Lindegardh[1]; Tran T Hien[3]; Jeremy Farrar[3]; Nicholas P J Day[1]; Nicholas J White[1]; *[1]Faculty of Tropical Medicine, Mahidol University, Bangkok, Thailand; [2]Oxford University, Oxford, UK; [3]Hospital for Tropical diseases, Ho Chi Minh City, Vietnam; [4]SEA Influenza Clinical Research Network*

ThP 294 **LC-ES/MS/MS Analysis of Soy Isoflavones in Prostate and Plasma from Men Undergoing Prostate Cancer Surgery**; Mona I. Churchwell[1]; Omer Kucek[2]; Howard Parnes[3]; Fazlul H. Sarkar[2]; Wael Sarkar[2]; Edson Pontes[2]; Michael Cher[2]; Daniel R. Doerge[1]; *[1]National Center for Toxicological Research, Jefferson, AR; [2]Karmanos Cancer Institute, Detroit, MI; [3]National Cancer Institute, Bethesda, MD*

ThP 295 **LC/MS/MS Determination of Tetrahydrobiopterin (BH4) in Human Plasma by Measuring L-Biopterin Concentration upon Oxidation under Basic Condition**; Yuwen Zhao[1]; Yongdong Zhu[1]; Saloumeh Jazayeri[1]; Jerry Cao[1]; Yuan-shek Chen[1]; Jamie Zhao[1]; Benjamin Chien[1]; Erik Foehr[2]; *[1]Quest Pharmaceutical Services, LLC, Newark, DE; [2]BioMarin Pharmaceuticals, Inc., Novato, CA*

ThP 296 **Urea Increases Extraction Recovery and Assay Specificity for Drug Analysis In Human Breast Milk using LC-MS?MS**; Laixin Wang[1]; Min Meng[1]; Scott Merkle[1]; Patrick Bennett[1]; Cheryl Spencer[2]; *[1]Tandem Labs, Salt lake City, UT; [2]Immtech Pharmaceuticals, Inc., Vernon Hills, IL*

ThP 297 **High Speed Analysis of ß- Blockers and Metabolites in Human Plasma by LC/ESI+MS/MS with High pH Mobile Phase**; Liming Peng; Tivadar Farkas; *Phenomenex Inc., Torrance, CA*

ThP 298 **Pharmacokinetic Analysis of Methylphenidate (Ritalin®) and Its Main Metabolite, Ritalinic Acid, in Mice using LC-ES/MS/MS**; Nathan C. Twaddle; Daniel R. Doerge; *Food and Drug Administration, Jefferson, AR*

ThP 299 **Ultra-Sensitive Quantification of Corticosteroids using Selective Solid Phase Extraction And Reversed-Phase Capillary High Performance Liquid Chromatography Tandem Mass**; Jun Qu[1]; Yang Qu[1]; Jin Cao[2]; Robert Straubinger[1]; *[1]University at Buffalo,*

Amherst, NY; [2]NY Centr of Excellence in bioinformatics & life Sc, Buffalo, NY

ThP 300 **LC-MS Quantitation with Data Dependent Full Scan Product Ion Confirmation: Increased Confidence via Interference Reducing FAIMS and H-SRM;** James Kapron[12]; Laurance Lee[12]; *[1]Thermo Fisher, Ottawa, Canada; [2]Thermo Fisher, San Jose, CA*

ThP 301 **Characterization of Penicillin-G Instability in Equine Plasma by Negative Ion Electrospray MSn Ion Tree Experiments Using a Linear Ion Trap**; Jeffrey Rudy[1]; Rongfang Xu[2]; Cornelius Uboh[2]; Joseph Dibussolo[3]; *[1]PA Equine Toxicology, West Chester, PA; [2]University of Pennsylvania New Bolton Vet Center, Kennet Square, PA; [3]ThermoFisher, Franklin, MA*

ThP 302 **Development and Validation of a Method for the Enantiomeric Quantitation of Amphetamine in Human Plasma by Chiral LC/MS/MS**; Daniel E Mulvana; Dale A Campbell; Erika Moore; *Advion BioServices, Ithaca, NY*

ThP 303 **Quantification of Humanized Therapeutic Antibodies in Human Serum by Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)**; Mathieu Dubois[1]; Jean-Claude Tabet[2]; Berend Neuteboom[3]; Eric Ezan[1]; Francois Becher[1]; *[1]CEA-Service de Pharmacologie et d'Immunoanalyse, Gif sur Yvette Cedex, France; [2]LCSOB Université Pierre et Marie Curie, Paris, France; [3]Drug Metabolism and Pharmacokinetics, Merck KGaA, Grafing, Germany*

ThP 304 **Determination of Ziprasidone in Rat Plasma and Brain Tissue by LC-MS/MS**; Guodong Zhang[1]; Alvin V. Terry Jr.[2]; Michael G. Bartlett[1]; *[1]University of Goergia, Athens, GA; [2]Medical College of Georgia, Augusta, GA*

ThP 305 **Analysis of Poly-γ-Glutamated Isoforms of Pemetrexed by UPLC and Ion Trap Mass Spectrometry**; David L. Hachey[1]; Victor J. Chen[2]; *[1]Vanderbilt University, Nashville, TN; [2]Lilly Research Laboratories, Indianopolis, IN*

ThP 306 **Method Development and Validation for the Determination of Triamcinolone Acetonide in Human Plasma by LC/MS/MS**; Juan Fan; Chrysantha Xavier; Nicola Hughes; *Biovail Contract Research, Toronto, Canada*

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ThP 307 **Identification of Oxidized Lipid Mediators in Human Plasma**; Celeste Ptak[1]; Robert C. Block[2]; J. Thomas Brenna[1]; *[1]Cornell University, Ithaca, NY; [2]University of Rochester, Rochester, NY*

ThP 308 **A Novel Lipase Activity Assay by Quantitative Analysis of Fatty Acid via LC-MS**; Gang Hao; Lan Yang; Istvan Mazsaroff; Melanie Lin; *Altus Pharmaceuticals, Cambridge, MA*

ThP 309 **Progress Toward Newborn Screening for X-Linked Adrenoleukodystrophy (X-ALD) Via Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)**; Walter C. Hubbard[1]; Ann B. Moser[2]; Anita K. Liu[2]; David S. Jones[2]; *[1]Johns Hopkins Hospital, Osler 505, Baltimore, MD; [2]Kennedy-Krieger Institute, 700 North Broadway, Baltimore, MD*

ThP 310 **Correlation of Several Isoprostanes with Human Smoking Behavior;** Weiying Yan[1]; Gary D. Byrd[2]; Michael W. Ogden[2]; *[1]Wake Forest University, Winston Salem, NC; [2]R.J.Reynolds Tobacco. Company, Winston Salem, NC*

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ThP 311 **LC-MS and LC-MS/MS Analysis of Bile from Mice Infected with *Listeria monocytogenes*;** Karolina M. Krasinska[1]; Jonathan W. Hardy[2]; Lindsay M. Comeaux[1]; Christopher H. Contag[2]; Allis S. Chien[1]; *[1]SU Mass Spectrometry, Stanford University, Stanford, CA; [2]Dept. of Pediatrics, Stanford School of Medicine, Stanford, CA*

ThP 312 ***In vitro* Study of Glycoxidative Modified Low Density Lipoproteins using a Lipoproteomic Approach**; Alan Barnes[1]; Gerald Stubiger[2]; Grazyna Sobal[2]; Omar Belgacem[1]; *[1]Shimadzu Biotech, Manchester, UK; [2]Institute of Chemical Technologies and Analysis, TU Vienna, Austria*

ThP 313 **Direct Identification and Characterization of Oxidized Analogs of Platelet Activating Factor by LC-MS/MS**; Xi Chen[1]; Gopal K Marathe[2]; Wujuan Zhang[1]; Thomas M McIntyre[2]; Stanley L Hazen[2]; Robert G Salomon[1]; *[1]Case Western Reserve University, Cleveland, OH; [2]Cleveland Clinic, Cleveland, OH*

ThP 314 **Quantitation of Human Urinary F2-Isoprostanes and their Metabolites by Mixed-Mode SPE and HPLC-MS-MS**; Alan W. Taylor[1]; Richard S. Bruno[2]; Maret G. Traber[1]; *[1]Oregon State University, Corvallis, OR; [2]University of Connecticutt, Storrs, CT*

ThP 315 **Bioconjugation of Lipid Peroxidation Products: A New Role for Vitamin C?**; Jan F. Stevens; Ralph Reed; Alan W. Taylor; Ruth Gordillo; Cristobal L. Miranda; *Oregon State University, Corvallis, OR*

ThP 316 **Determination of Ergosterol by HPLC-MS from Whole Grain Samples Utilizing a Novel APCI Interface**; Mark Busman; *USDA-ARS, Peoria, IL*

ThP 317 **Quantitative Analysis of Dihydroxyeicosatrienoic Acids by Stable Isotope Dilution Chiral LC-Electron Capture APCI/MS**; Clementina Mesaros; Seon Hwa Lee; Ian Blair; *University of Pennsylvania, Philadelphia, PA*

ThP 318 **Mass Spectrometric Quantification of Long Chain Fatty Acyl-Coenzyme A (LCFA) Compounds in Rodent Diabetic Tissue**; Kathleen R. Noon; Jaeman Byun; Anuradha Vivekanandan-Giri; Subramaniam Pennathur; *University of Michigan, Ann Arbor, MI*

ThP 319 **Characterizing High Molecular Weight Wax Esters by Matrix-Assisted Laser Desorption/Ionization – Time of Flight Mass Spectrometry**; Vladimir Vrkoslav; Miloslav Šanda; Josef Cvacka; *Institute of Organic Chemistry and Biochemistry, Prague 6, Czech Republic*

ThP 320 **Mass Spectrometry of Deuterated and Primary Sterols for Quantitative Analysis by HPLC-ESI-MS**; Jeffrey G. McDonald[1]; Jeff D. Moore[2]; Erin C. McCrum[1]; William V. Caufield[2]; Walter A. Shaw[2]; *[1]UT Southwestern Medical Center, Dallas, TX; [2]Avanti Polar Lipids, Alabaster, AL*

ThP 321 **Development of a Simplified LC/MS/MS Method for Quantitation of 2-arachidonylglycerol (2-AG) and Arachidonoylethanolamide (AEA) in Mouse Tissues and 3T3-L1 Adipocytes**; Kerry A. Pierce[1]; Tara M. D'Eon[2]; Sandra R. Teixeira[1]; Andrew N. Tyler[1]; *[1]Novartis Institutes for Biomedical Research, Cambridge, MA; [2]Elixir Pharmaceuticals, Cambrdige, MA*

ThP 322 **Inclusion Complex Based Solid-Phase Extraction of Urinary Steroids with Polymerized ß-cyclodextrin Powder**; Ju-Yeon Moon; Bong Chul Chung; Man-Ho Choi; *Life Sciences Division / KIST, Seoul, South Korea*

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ThP 323 **Isolation and Relative Quantification of Phosphatidylserine from Vascular Endothelial Cells**; Julie K Freed[1]; Michael S Shortreed[2]; Brian L Frey[2]; Christopher J Kleefisch[1]; Lloyd M Smith[2]; Andrew S Greene[1]; *[1]Medical College of Wisconsin, Milwaukee, WI; [2]University of Wisconsin, Madison, WI*

ThP 324 **Diet-Induced Insulin Resistance and Sphingolipid Profiles in Rats: A 2D Lipidomic Approach**; Todd W Mitchell[1]; Nigel Turner[2]; Kim Ekroos[3]; A. J. Hulbert[1]; Paul L. Else[1]; Stephen J. Blanksby[1]; *[1]University of Wollongong, Wollongong, Australia; [2]Garvan Institute of Medical Research, Sydney, Australia; [3]Astrazeneca R&D, Molndal, Sweden*

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ThP 325 **Identification and Deamination of New DNA Photoproducts**; Dian Su; *Washington University, St Louis, MO*

ThP 326 **Structural Characterization of a Short Interfering RNA Duplex by Non-Denaturing Ion-Pair Reversed-Phase HPLC Electrospray Ionization Mass Spectrometry**; Scott A. Young; Marsha Langhorst; Mike Fazio; Krishna Kuppannan; *The Dow Chemical Company, Midland, MI*

ThP 327 **Selective Detection of Sugar-Nucleotides in an Engineered *E. coli* Host by HILIC-MS**; Joseph P. M. Hui[1]; Jie Yang[2]; Jon S. Thorson[2]; Evelyn C. Soo[1]; *[1]NRC - Institute for Marine Biosciences, Halifax, Canada; [2]School of Pharmacy, University of Wisconsin, Madison, WI*

ThP 328 **Top-down Analysis of Transfer RNA via Ion Trap Tandem Mass Spectrometry**; Teng-yi Huang; Xiaorong Liang; Jian Liu; Yu Xia; Scott McLuckey; *Purdue University, West Lafayette, IN*

ThP 329 **Promoted to Oral TOC am 9:55**

ThP 330 **Heterocyclic Aromatic Amines and DNA Adducts: Investigation of Reactivity from Model Systems**; Emilien L. Jamin; Delphine Arquier; Jacques Tulliez; Laurent Debrauwer; *UMR1089 Xenobiotiques INRA-ENVT, Toulouse, France*

ThP 331 **Quantitation of Oligonucleotide by Isotope Dilution Mass Spectrometry**; Tomoya Kinumi; Akiko Takatsu; *AIST/NMIJ Bio-Medical Standards Section, Tsukuba, Ibaraki, Japan*

ThP 332 **Antisense Oligonucleotide and siRNA Sequencing using Quadrupole Time of Flight (Q-TOF) and Hybrid Linear Ion Trap - FTMS (LTQ-FT) instruments;** Jeffrey Gilbert; Scott Young; Mike Fazio; Larry Nicholson; Marsha Langhorst; *The Dow Chemical Company, Midland, MI*

ThP 333 **Sequence-Specific Exonuclease Digestion of Modified Oligonucleotides Investigated by LC/MS**; M. Paul Chiarelli[1]; Lan Gao[1]; Yuyuan Li[2]; Li Zhang[2]; Bongsup Cho[2]; *[1]Loyola University, Chicago, IL; [2]University of Rhode Island, Kingston, RI*

ThP 334 **Sodium Binding Affinity of 3-Methyladenine**; Bethany Subel[1]; Ping Wang[1]; Chrys Wesdemiotis[1]; *[1]University of Akron, Akron, OH; [2]Noveon, Inc., Brecksville, OH*

ThP 335 **Antisense Oligonucleotide Metabolite Identification Utilizing Ion-Pair HPLC-MS/MS**; Hans J Gaus[1]; Len L Cummins[2]; Steven A Hofstadler[2]; *[1]Isis Pharmaceuticals, Inc., Carlsbad, CA; [2]Ibis Biosciences, Carlsbad, CA*

ThP 336 **The Influence of Cytosine Methylation on the Chemoselectivity of Benzo[A]Pyrene Diol Epoxide-Oligonucleotide Adducts Determined using nano LC-MS/MS**; Wennan Xiong[1]; James Glick[1]; Yiqing Lin[1]; Anne M. Noronha[2]; Christopher J. Wilds[2]; Paul Vouros[1]; *[1]northeastern University, Boston, MA; [2]Concordia University, Montreal, Quebec, Canada*

ThP 337 **Gas-Phase Ion-Electron Reactions of Modified Oligonucleotides in a Fourier Transform Ion Cyclotron Resonance Mass Spectrometer**; Jiong Yang; Kristina Håkansson; *University of Michigan, Ann Arbor, MI*

ThP 338 **Analysis of 8-oxoguanine, 8-oxoguanosine and 8-oxo-2'-deoxyguanosine in Human Urine by High Performance Liquid Chromatography-Electrospray Tandem Mass Spectrometry;** Bhaskar Malayappan; Timothy Garrett; christiaan Leeuwenburgh; *Univ of Florida, Gainesville, Florida, FL*

ThP 339 **Base Excision Repair of an Oligonucleotide Containing Deoxyuracil**; Walter E. Rudzinski; Ed Cen; Ronald B. Walter; *Texas State University-San Marcos, San Marcos, TX*

NATURAL PRODUCTS II
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ThP 340 **Chiral Recognition of Phthaloylglutamic Acid and Its Derivatives by Electro Spray Ionization and Matrix Assisted Laser Desorption Techniques;** Suma Ramagiri; Renuka Gupte; Igor Rakov; Ryan Charles Yates; Duane Miller; *University of Tennessee Health Science, Memphis, TN*

ThP 341 **Improved Ionization Efficiency and Rapid Identification/Quantification of Phenolic Compounds in Food Products by Negative ion ESI Capillary LC/MS/MS**; Carina S. Minardi[1]; Christine A. Hughey[1]; Lilian M. Were[1]; Bruce E. Wilcox[2]; *[1]Chapman University, Orange, CA; [2]Eksigent Technologies, Dublin, CA*

ThP 342 **Fingerprint Analysis of Acylated Flavonol Tetraglycosides in Oolong Teas using SPE-LC/MSn**; Jianpeng Dou; Chiou-Shu Lin; Viola S.Y. Lee; Jason T.C. Tzen; Maw-rong Lee; *National Chung-Hsing University, Taichung, TAiWAN*

ThP 343 **MSn Analysis of Natural Nutraceutical Supplements**; Helen V. Montgomery[1]; Joy M. Ginter[2]; Koichi Tanaka[3]; *[1]Shimadzu, Koichi Tanaka MS Research laboratory, Manchester, United Kingdom; [2]Shimadzu Scientific Instruments, Inc., Columbia, MD; [3]Shimadzu Corporation, Kyoto, Japan*

ThP 344 **A Fast and Accurate LC/MS/MS Method for the Simultaneously Determinations of Two Bioactive Phenolic and Flavonoid Compounds in Chinese Herbal**; Yan Ling Zhang[1]; James Garcia[2]; Richard Staub[2]; Scott Bagett[2]; Isaac Cohen[2]; Uwe Christians[1]; *[1]Univ. of Colorado Health Science Center, Denver, CO; [2]Bionovo, Inc., Emeryville, CA*

ThP 345 **The Analysis of Traditional Herbal Plants from Eritrea, East Africa using GC-MS, HPLC-ESI-MS and HPLC-ESI-MS/MS**; Julie Herniman[1]; G John Langley[1]; John M Mellor[1]; Katerina Klagkou[2]; *[1]University of Southampton, Southampton, United Kingdom; [2]Thermo Fisher Scientific, Hemel Hempstead, United Kingdom*

ThP 346 **Approaches to the Identification of Unknown Anabolic Steroids in Dietary Supplements by Mass Spectrometry**; Martha L. Gay; John A.G. Roach; *FDA, College Park, MD*

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ThP 347 **Profiling and Characterization of Polyphenol Polymers from Cinnamon using Ion Trap Mass Spectrometer**; Min He[1]; Peter Wang[2]; Ying Xiang[3]; Ying Qi[3]; Howard Sun[3]; Julian Phillips[1]; *[1]Thermo Fisher Scientific, San Jose, CA; [2]Thermo Fisher China, Shanghai, China; [3]Shanghai R&D, Nu Sin Enterprises, Shanghai, China*

ThP 348 **Simultaneous Determination of Bioactive Components from Angelicae dahuricae Radix by LC-ESI-MS/MS**; Eun Ha Jung[1]; Ah Yeon Park[1]; Jinwoong Kim[2]; Jeong-Rok Youm[1]; Sang Beom Han[1]; *[1]Chung-Ang University, Seoul, South Korea; [2]Seoul National University, Seoul, South Korea*

ThP 349 **Characterization of Polyphenols of Products Derived from Bees using CE-ESI-TOF**; David Arraez-Ramon[1]; Gabriela Zurek[2]; Carsten Baessmann[1]; Antonio Segura-Carretero[1]; Alberto Fernandez-Gutierrez[1]; *[1]University of Granada, Granada, Spain; [2]Bruker Daltonik GmbH, Bremen, GERMANY*

ThP 350 **Liquid Chromatography/Electrospray Ionization Tandem Mass Spectrometry Method for Simultaneous Determination of Bioactive Components from Astragali Radix**; Hyon Kyun Lim[1]; Jin Hee Kim[1]; Sam Sik Kang[2]; Sang Beom Han[1]; Jeong-Rok Youm[1]; *[1]Chung-Ang University, Seoul, South Korea; [2]Seoul National University, Seoul, South Korea*

ThP 351 **Simultaneous Quantitation of Twelve Flavonoids by LC-MS/MS in Rooibos Tea Product**; Liliang Zhang[1]; Li Yang[2]; Zijia Zhang[2]; Zhengtao Wang[2]; Xianguo Zhao[1]; *[1]Brunswick Laboratories, Norton, MA; [2]R&D Centre for Standardization of Chinese Medicine, Shanghai, P.R. China*

ThP 352 **Analysis of Saponins from Leaves of Aralia Elate by Liquid Chromatography and Tandem Mass Spectrometry**; Mingquan Guo[1]; Lei Zhang[2]; Zhiqiang Liu[1]; *[1]Changchun Institute of Applied Chemistry, Changchun,, PR China; [2]College of Chemistry of Jilin university, Changchun,, PR China*

ThP 353 **Characterization of the Bioactive Metabolites in Metarhizium Anisopliae by ESI/In-Source Collision/Ion Trap**; Huang-Wei Chian; Kuo-Lung Ku; *National Chiayi University, Chiayi City, Taiwan*

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ThP 354 **Analytical Strategies for the Rapid Characterization of Diacylglycerol-Lactone Combinatorial Libraries Utilizing Mass Spectrometry**; Christopher C. Lai; Said El Kazzouli; Lawrence R. Phillips; Angelica M. Garcia; Victor E. Marquez; James A. Kelley; *National Cancer Institute, NIH, Frederick, MD*

ThP 355 **Properties-retention Study on Supercritical Fluid Chromatography Coupled to Mass Spectrometry (SFC-MS). Analysis of a Sulfonamide Library;** Amaury Cazenave-Gassiot[1]; G. John Langley[1]; Robert Boughtflower[3]; Jeffrey Caldwell[7]; Richard Coxhead[2]; Laure Hitzel[6]; Stephen Lane[4]; Paul Oakley[5]; Clare Paterson[3]; Frank Pullen[6]; *[1]University of Southampton, Southampton, United Kingdom; [2]Evotec OAI Ltd., Abingdon, United Kingdom; [3]GlaxoSmithKline, CASS, Harlow, United Kingdom; [4]GlaxoSmithKline, Stevenage, United Kingdom; [5]Mettler-Toledo Autochem, Newark, DE; [6]Pfizer Global Research and Development, Sandwich, United Kingdom; [7]Princeton Chromatography Inc., Cranbury, NJ*

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ThP 356 **VUV Laser Induced Fragmentation for Structural Characterization of Small Molecule**; J.C. Yves Le Blanc; Sasha Loboda; Bruce Thomson; *MDS Sciex, Concord, Canada*

ThP 357 **Structural Elucidations of Anionic Species by using Ion Chromatography a Hybrid Linear Ion Trap Fourier Transform Mass Spectrometer**; Shigeru Sakamoto[1]; Kai Uchiumi[2]; Yoko Sekiguchi[2]; Masayuki Kubota[1]; *[1]Thermo Fisher Scientific, Yokohama, Japan; [2]Nippon Dionex K.K., Osaka, Japan*

ThP 358 **An Orthogonal Approach to Increasing Assay Ruggedness at Low Limits of Quantitation in LC/MS/MS Assays**; Spencer J Carter; Vladimir Capka; Stephen M Viccarone; *Tandem Labs, Salt Lake City, UT*

ThP 359 **Analysis of Uranium Azide and Nitride Complexes by Atmospheric Pressure Chemical Ionization Mass Spectrometry (APCI-MS)**; John Greaves; William J. Evans; Kevin A. Miller; Joseph W. Ziller; *University of California, Irvine, CA*

ThP 360 **Identification of "Unknowns" - Structural Clues From Advanced Isotope Peak Modeling of MS and Orthogonal MSMS Data**; Robert J Strife[1]; Michele Mangels[1]; Jason Price[1]; Ming Gu[2]; Yongdong Wang[2]; Don Kuehl[2]; *[1]Procter & Gamble, Cincinnati, OH; [2]Cerno Bioscience, Danbury, CT*

ThP 361 **Use of Ion Adducts to Increase Selectivity and Sensitivity in LC-MS/MS**; Marie-Pierre Taillon; Cynthia Côté; Sylvain Latour; Véronique Gauvreau; Josée Michon; Troy Bradley; Fabio Garofolo; *Algorithme Pharma Inc., Laval (Montreal), QC, Canada*

ThP 362 **Analysis and Quantification of Small Molecule Drugs Utilizing a MALDI-Triple Quadrupole Mass Spectrometer**; Tania A. Sasaki[1]; Yves LeBlanc[2]; *[1]Applied Biosystems, Foster City, CA; [2]MDS Sciex, Concord, Ontario Canada*

ThP 363 **HPLC and LC/MS/MS Detection of Diglucoside Substituted Anthocyanins in Red Wines Produced by Hybrid Grapes**; Fan Ni; *Alcohol & Tobacco Tax & Trade bureau, Beltsville, MD*

ThP 364 **Photoionization Cross-Sections of Volatile Organic Compounds at 10.5 eV**; Nozomu Kanno; Kenichi Tonokura; *The University of Tokyo, Tokyo, Japan*

ThP 365 **Unusual Fragmentation Pathways of Positively Charged Alkali Metal Ion Adducted Carboxylic Acids;** Chang-Ching Chan[1]; Mark S. Bolgar[1]; Athula B. Attygalle[2]; *[1]Bristol-Myers Squibb Co., New Brunswick, NJ; [2]Stevens Institue of Technology, Hoboken, NJ*

ThP 366 **Fragmentation Pathways of Deprotonated Phenanthroperylene Quinones from Fossil Sea Lilies by Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; Juergen H. Gross[1]; Klaus Wolkenstein[2]; Heinz F. Schöler[2]; *[1]Organisch-Chemisches Institut, Heidelberg, Germany; [2]Institut für Umweltgeochemie, Heidelberg, Germany*

ThP 367 **Dissociation Pathways, Kinetics and Relative Energetics of the Siderophore Enterobactin and its Fe(III) Complex Studied by IRMPD ESI-FT-ICR/MS**; Rambod Daneshfar; Andrew D. Leslie; Dietrich A. Volmer; *NRC, Institute for Marine Biosciences, Halifax, Canada*

ThP 368 **A Machine Learning Pipeline for Substructure Detection in Unknown Mass Spectra**; Tobias Kind; Oliver Fiehn; *UC Davis Genome Center - Metabolomics, Davis, CA*

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ThP 369 **Small Molecular Analysis using a TOF/TOF Mass Spectrometer, a Cationizing Matrix and µFocus MALDI Plate**; Fan Xiang[1]; Haiqiang Yu[2]; Andreas H. Franz[2]; *[1]Shimadzu Biotech, Pleasanton, CA; [2]University of the Pacific, Stockton, CA*

ThP 370 **Sensitivity Enhancement in Capillary Electrophoresis Coupled to Mass Spectrometry (CE-MS) for the Detection and Identification of Alkylphosphonic Acids**; Mélanie Lagarrigue[1]; Anne Bossée[1]; Arlette Bégos[1]; Nathalie Delaunay[2]; Anne Varenne[2]; Pierre Gareil[2]; Bruno Bellier[1]; *[1]Centre d'Etudes du Bouchet, Vert-le-Petit, France; [2]Laboratoire Electrochimie et Chimie Analytique, Paris, France*

ThP 371 **Quantitation of Menthol Using Liquid Chromatography Atmospheric Pressure Chemical Ionization Tandem Mass Spectrometry**; Jian Jiang; Bernd Bruenner; Christopher James; *Amgen, Thousand Oaks, CA*

ThP 372 **Determination of Ion Structures in Structurally Related Compounds using Precursor Ion Fingerprinting**; Michelle Sheldon[1]; Timothy R. Croley[1]; Robert Mistrik[2]; *[1]Commonwealth of Virginia, Richmond, VA; [2]HighChem, Ltd., Bratislava, Slovakia*

ThP 373 **The MS of Carbonyl Compounds Generated from Titan Atmosphere Simulations Containing Carbon Monoxide;** Michael F Aldersley[1]; Robert Briggs[2]; James P Ferris[1]; Michael Force[2]; Buu N Tran[1]; Dmitri V Zagorevskii[1]; *[1]Rensselaer Polytechnic Institute, Troy, NY; [2]NY State Department of Health, Albany, NY*

ThP 374 **High-Throughput Analysis of Thiazide Diuretics by Liquid Chromatography-Tandem Mass Spectrometry in Food Supplements**; Jung Nyun Kim[1]; Seol-a Kim[2]; Hee Duck Lee[1]; Man-Ho Choi[2]; *[1]Harzardous Material Analysis Team / KAFRI, Seoul, South Korea; [2]Life Sciences Division / KIST, Seoul, South Korea*

ThP 375 **Analysis of Endocrine Disrupting Compounds, Pharmaceuticals and Personal Care in Water Using Simultaneous ESI and APCI Ionization**; Jim Krol; Andre Schreiber; Hensham Ghobarah; Chrisopher Borton; Loren Y Olson; Mark Kuracina; *Applied Biosystems, Framingham, MA*

ThP 376 **Detection of 3-Methylhistidine and Anserine using Heptafluorobutyric Acid (HFBA) Desalting and Formic Acid Infusion ESI Mass Spectrometry**; Xiang He; Thomas Shaler; Erika Price; Christopher Becker; *PPD Inc., Menlo Park, CA*

ThP 377 **Eliminating The Solvent Evaporation and Reconstitution Steps from the Cocktail CYP Inhibition Assay by On-Line Dilution for LC/MS/MS analysis;** Tao Wang; Ying Jiang; Kelly Jenkins; *Pfizer, San Diego, CA*

ThP 378 **Accurate Mass Measurement Using Single Quadrupole GC/MS for Structure Elucidation of Unknowns**; Joseph Mick; Todd Gillespie; *Eli Lilly & Company, Indianapolis, IN*

ThP 379 **Advantages of Molecular Imprinted Polymers LC-ESIMS/MS for Selective Extraction/Quantification of Chloramphenicol in Milk. Comparison to a Classical Sample Preparation**; Rayane Mohamed[1]; Janique Richoz-Payot[1]; Eric Gremaud[1]; Ecevit Yilmaz[2]; Jean Claude Tabet[3]; Philippe Alexandre Guy[1]; *[1]Nestle Research Center, Lausanne, Switzerland; [2]MIP Technologies, Lund, Sweden; [3]University Pierre and Marie Curie, Paris, France*

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ThP 380 **Novel Metabolite Labeling Technique for the Quantification of Abscisic Acid via LC-ESI-MS in the Fern Ceratopteris Richardii**; Amber S Hopf[1]; Wenchu Yang[2]; Fred Regnier[2]; Jody Banks[3]; Jiri Adamec[1]; [1]Bindley Bioscience Center; [2]Dept of Chemistry; [3]Dept of Botany and Plant Pathology Purdue University, West Lafayette, IN

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ThP 381 **Assessing the False Positive Rates Associated with the Methods Currently Used to Identify Sites of N-linked Glycosylation**; Lin Lin[1]; D. Brent Weatherly[1]; James A. Atwood[2]; Arthur Nuccio[2]; Ron Orlando[2]; *[1]BioInquire, LLC, Athens, GA; [2]University of Georgia, Athens, GA*

ThP 382 **Investigations with O-linked Protein Glycosylations by MALDI-FTICR-MS**; Diana A. Saggese[1]; Taufika Islam Williams[1]; Robert J. Wilcox[1]; James D. Martin[1]; Hyun Joo An[2]; Bensheng Li[2]; Carlito B. Lebrilla[2]; David C. Muddiman[1]; *[1]North Carolina State University, Raleigh, NC; [2]University of California-Davis, Davis, CA*

ThP 383 **Selective Enrichment of Glycopeptides from Glycoprotein Digests Using Ion-Pairing Normal-Phase Liquid Chromatography**; Wen Ding; Jennifer J. Hill; John Kelly; *NRC, Institute for Biological Sciences, Ottawa, Canada*

ThP 384 **Novel UPLC-UV/MS Method for Quantitative Analysis of Protein Glycoforms**; Anton Karnoup[1]; Krishna Kuppannan[1]; Demetrius Dielman[1]; David McCaskill[2]; Nile Frawley[1]; Scott A. Young[1]; *[1]The Dow Chemical Company, Midland, MI; [2]Dow AgroSciences, Indianapolis, IN*

ThP 385 **Comparing Collision-induced Dissociation and Electron-transfer Dissociation for Determining Site of Glycosylation in Glycopeptides Separated by Chip-based Liquid Chromatography**; William R. Alley, Jr[1]; Yehia Mechref[2]; Milos V. Novotny[1]; *[1]National Center for Glycomics and Glycoproteomics, Bloomington, IN; [2]METACyt Biochemical Analysis Center, Bloomington, IN; [3]Indiana University, Bloomington, IN*

ThP 386 **A Novel Glycoproteomic Approach for the Complete Characterization of Glycopeptides from Complex Biological Mixtures**; James A. Atwood[1]; Zuzheng Luo[1]; D. Brent Weatherly[2]; Barry Boyes[1]; Ron Orlando[1]; *[1]University of Georgia, Athens, GA; [2]BioInquire, LLC, Athens, GA*

ThP 387 **Biospecific Isolation and Label Free Comparison of Complex N-linked Glycoproteins in Sera of Patients with Malignant and Benign Ovarian Tumors**; Julianne M. Cook Botelho[1]; Lin Lin[2]; D. Brent Weatherly[2]; Ron Orlando[1]; *[1]Complex Carbohydrate Research Center/UGA, Athens, GA; [2]BioInquire, LLC, Athens, GA*

ThP 388 **Comparison of Top-up (intact protein) and Bottom-up Techniques for the Quantitation of Glycosylation in Recombinant IgG Molecules**; Sandipan Sinha[1]; Gary Pipes[2]; Elizabeth M. Topp[1]; Pavel V. Bondarenko[2]; Michael Treuheit[2]; Himanshu S. Gadgil[2]; *[1]University of Kansas, Lawrence, KS; [2]Amgen Inc., Thousand Oaks, CA*

ThP 389 **Integration of Mutli-Lectin Detection Based Glycoprotein Microarrays with Mass Spectrometry for Profiling N-Glycosylation Pattern Changes in Colon Cancer**; Yinghua Qiu; Tasneem H. Patwa; Missy Tuck; Dean E. Brenner ; David M. Lubman; *University of Michigan, Ann Arbor, MI*

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ThP 390 **Discrimination of α2,3- and α2,6-Sialylation on Oligosaccharides in the Presence of Pyrene Derivatives using MALDI-QIT-TOFMS**; Junko Amano; Fumio Tougasaki; Ichiro Sugimoto; *The Noguchi Institute, Tokyo, Japan*

ThP 391 **Glycosylation Pattern on Human Monoclonal Antibodies: A Novel Lectin Affinity- LC MS/MS Method of Characterization**; Zhigang Wu; Susan Wong; Lourdes Thevanayagam; Shrikant Deshpande; Mohan Srinivasan; *Medarex, Sunnyvale, CA*

ThP 392 **Novel LC/MS/MS Workflows for Quantitative Analysis of the Glycoform Distribution of Human Immunoglobulin Proteins**; Christof E. Lenz; Jianru Stahl-Zeng; Jörg Dojahn; *Applied Biosystems Germany, Darmstadt, Germany*

ThP 393 **Development of a Workflow for the Analysis of Clinical Glycoproteins**; Faith Hays; David Bunk; *National Institute of Standards and Technology, Gaithersburg, MD*

ThP 394 **Using Graphitized Carbon for Glycopeptide Separations Prior to Mass Spectral Detection**; William R Alley[1]; Yehia Mechref[1]; Milos V. Novotny[1]; *[1]National Center for Glycomics and Glycoproteomics, Bloomington, IN; [2]METACyt Biochemical Analysis Center, Bloomington, IN; [3]Department of Chemistry, Indiana University, Bloomington, IN*

ThP 395 **Identification of Rat Urinary Glycoproteins using Lectin Columns;** Pyong-gon Moon[1]; Hyun-Ho Hwang[1]; Hye-Jeong Kim[1]; Seung-Jin Lee[2]; Je-Yoel Cho[2]; Tae-Hwan Kwon[3]; Sun-Hee Park[4]; Yong-Lim Kim[4]; Moon-Chang Baek[1]; *[1]Dept. Molecular Medicine, School of Medicine,, Deagu, South Korea; [2]Dept. Biochemistry, School of Dentistry,, Deagu, South Korea; [3]Dept. of Biochem. and Cell Biology, School of medi, Deagu, South Korea; [4]Dept.of InternalMedicine, Kyungpook univ.hospital, Deagu, South Korea*

ThP 396 **Relative Quantification of Glyco-Proteins from Yeast Lysate by Means of ICPL Labelling, ConA Capturing and MALDI-TOF Mass Spectrometry**; Katrin Sparbier[1]; Irina Kessler[1]; Gongyi Shi[2]; Markus Kostrzewa[1]; *[1]Bruker Daltonik GmbH, Leipzig, GERMANY; [2]Bruker Daltonics, Billerica, MA*

ThP 397 **Characterization of Glycoprotein Isoforms Separated by cIEF using MALDI-QIT with an On-Plate Digestion Method**; Chen Li[1]; Jia Zhao[1]; Fan Xiang[2]; David M Lubman[1]; *[1]University of Michigan, Ann Arbor, MI; [2]Shimadzu corporation, Santa Clara, CA*

ThP 398 **Identifying Glycopepteins in Complex Mixtures using a Biotin - Hydrazide Enrichment Strategy**; Prasanna Ramachandran; Anders J. Ytterberg; Rachel R. Ogorzalek Loo; Pinmanee Boonthueng; Joesph A. Loo; *University of California, Los Angeles, Los Angeles, CA*

ThP 399 **Glycoprotein Characterization using Infusion Chip Technology Combined with FT-ICR Mass Spectrometry and ECD/IRMPD Fragmentation**; Daniel Eikel[1]; Janet Mans[2]; David H. Margulies[2]; Sonja Hess[1]; *[1]DHHS, National Institutes of Health, NIDDK, Bethesda, MD; [2]DHHS, National Institutes of Health, NIAID, Bethesda, MD*

ThP 400 **Label-Free Quantitative Glycoproteomics**; Kathryn R. Rebecchi; Eden P. Go; Heather Desaire; *University of Kansas, Lawrence, KS*

ThP 401 **Maximizing Coverage of Glycosylation Heterogeneity in MALDI-MS Analysis of Human Serum Glycopeptides**; Ying Zhang; Eden P. Go; Heather Desaire; *Chemistry Department of University of Kansas, Lawrence, KS*

ThP 402 **A Novel Approach for Identification and Characterization of Glycoproteins Using a Quadrupole Ion-Mobility Time-of-Flight Mass Spectrometer**; Weibin Chen; Petra Olivova; Catalin E. Doneanu; John C. Gebler; *Waters Corp, Milford, MA*

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ThP 403 **Quantitative Comparison of Myofilament Phospho-Proteomes of Neonatal and Adult Rat Hearts- A Mass Spectrometry Approach**; Chao Yuan[1]; Quanhu Sheng[2]; Haixu Tang[2]; Rong Zeng[3]; Yixue Li[3]; R. John Solaro[1]; *[1]University of Illinois at Chicago, Chicago, IL; [2]Indiana University, Bloomington, IN; [3]Shanghai Institutes for Biological Sciences, Shanghai, China*

ThP 404 **Target Analysis for PTM Discovery using A QqTOF MS Acquisition System**; Xu Guo[1]; David M. Cox[1]; Christie Hunter[2]; Min Du[3]; Eva Duchoslav[4]; John C. Mcdermott[3]; *[1]Applied Biosystems/MDS Sciex, Concord, Canada; [2]Applied Biosystem, Foster City, CA 94404; [3]York University, Toronto, Canada; [4]MDS Sciex, Concord, Canada*

ThP 405 **Phospho-protein / Peptide Enrichment Combined with MS for Phosphoproteomic Study of Salt Response Signaling Pathways in Rice**; Dawei Liu; John Patterson; Siria Natera; Kris Ford; Antony Bacic; *The University of Melbourne, Melbourne, Australia*

ThP 406 **Arabidopsis Thaliana Phosphopeptide Identification by Electron Transfer Dissociation Mass Spectrometry**; Hillary A. Montgomery[1]; Joshua Blakeslee[2]; Alison DeLong[2]; Jeffrey Shabanowitz[1]; Donald F. Hunt[1]; *[1]University of Virginia, Charlottesville, VA; [2]Brown University, Providence, RI*

ThP 407 **2D-nanoLC Approach using TiO2 Columns for the Enrichment of Protein-RNA Cross-Links and Phosphopeptides Derived from Ribonucleoprotein Particles for MS-Based Identification**; Florian Richter; Eva Kühn-Hölsken; Mads Gronborg; Monika Raabe; Uwe Plessmann; Henning Urlaub; *Max Planck Institute for Biophysical Chemistry, Goettingen, GERMANY*

ThP 408 **Cross-Talk Between EGF and TNF Alpha Signaling Pathways Analyzed by Quantitative Phosphoproteomics**; Matthias Mann; Florian Gnad; Chanchal Kumar; Sonja Krueger; Gaby Sowa; Cuiping Pan; Jürgen Cox; Jesper V. Olsen; *Max Planck Institute for Biochemistry, D Martinsried, Germany*

ThP 409 **LC-time Scale Peptide Sequencing and PTM Characterization in the Negative Ion-mode using Electron Detachment Dissociation;** Frank Kjeldsen; Anders Giessing; Ole N. Jensen; *University of Southern Dennark, Odense , Denmark*

ThP 410 **Phosphoprotein Profiling by Negative Mode Precursor Ion Scanning**; William Old[1]; John Shabb[3]; Chia-yu Yen[1]; Stephane Houel[1]; Brian Eichelberger[1]; Carrie Croy[1]; Katheryn Resing[1]; Natalie Ahn[2]; *[1]University of Colorado, Boulder, CO; [2]HHMI, Boulder, CO; [3]University of North Dakota, Grand Forks, ND*

ThP 411 **Improved Characterisation Approaches for the Identification of Post-Translationally Modified Peptides by Utilising Travelling Wave-Based Ion Mobility Mass Spectrometry**; Susan E. Slade[1]; Thalassinos Konstantinos[1]; Jonathan P. Williams[1]; James H. Scrivens[1]; Robert H. Bateman[2]; *[1]Biological Sciences, University of Warwick, Coventry, United*

Kingdom; [2]Waters MS Technologies, Manchester, United Kingdom

ThP 412 **Global Phosphorylation Analysis using Protein Microarrays And Mass Spectrometry to Assess Processes That Change from Pre-Malignant to Malignant Breast Cancer**; Tasneem H. Patwa[1]; Fred R. Miller[2]; David M. Lubman[1]; *[1]University of Michigan, Ann Arbor, MI; [2]Wayne State University School of Medicine, Ann Arbor, MI*

ThP 413 **Improved Detection of Phosphopeptides using a Combination of Electro Capture and High Performance MALDI ToF/ToF**; D J Evason[1]; V C Parr[1]; T Lavold[2]; J Astorga[2]; O N Jensen[3]; *[1]SAI, Manchester, United Kingdom; [2]Biomotif AB, Stockholm, Sweden; [3]University of Southern Denmark, Odense, Denmark*

ThP 414 **Application of Phosphoproteomic Strategies and Mass Spectrometry to Study the Molecular Processes Underlying Odor Perception in Mouse**; Heike Piechura[1]; Jon Barbour[1]; Eva Neuhaus[2]; Hanns Hatt[2]; Helmut E. Meyer[1]; Bettina Warscheid[1]; *[1]Medical Proteome Center, Bochum, Germany; [2]Cellphysiology, Bochum, Germany*

ThP 415 **Quantitative Monitoring of Dynamic Phosphorylation in the Extracellular signal-Regulated Kinase Pathway**; Gum Yong Kang; *Konkuk University, Seoul, South Korea*

ThP 416 **Quantitative Determination of Phosphorylated Isomers in Human Cardiac Troponin I by Top Down Electron Capture Dissociation/Electron Transfer Dissociation Mass Spectrometry**; Ying Ge[1]; Vlad Zabrouskov[2]; Jae Schwartz[2]; Jeffery W. Walker[1]; *[1]UW Madison, Madison, WI; [2]Thermo Fisher Scientific, San Jose, CA*

ThP 417 **Phosphoproteome Analysis Using Electron Transfer Dissociation Ion Trap Mass Spectrometry and Database Searching**; Ning Tang[1]; David M. Horn[1]; Henrik Molina[2]; Suresh Mathivanan[2]; Akhilesh Pandey[2]; *[1]Agilent Technologies, Santa Clara, CA; [2]Johns Hopkins University, Baltimore, MD*

ThP 418 **Optimizing Phosphoprotein Analysis for Arabidopsis thaliana;** Katharina Lohrig[1]; Bernd Müller[2]; Dario Leister[2]; Dirk Wolters[1]; *[1]Ruhr Universität Bochum, Bochum, Germany; [2]Ludwig Maximilian Universität, München, Germany*

ThP 419 **Exploring the Relative Efficiencies Between Rapid Online and Offline Phosphopeptide Enrichment Sample Preparation Techniques**; Nina Viswanathan[1]; Stuart Lam[1]; Peter Kent[2]; Kerry Nugent[2]; Mark T Cancilla[1]; *[1]Sunesis Pharmaceuticals INC, South San Francisco, CA; [2]Michrom BioResources, Auburn, CA*

ThP 420 **A Covalent Solid-Phase Enrichment Technique Used in the Isolation and Analysis of Phosphorylated Proteins;** Samantha M. Frawley; Jetze J. Tepe; *Michigan State University, East Lansing, MI*

ThP 421 **Analysis of Phosphopeptides in Cerebrospinal Fluid by Liquid Chromatography Coupled to Inductively Coupled Plasma Mass Spectrometry and to HPLC-Chip-Mass Spectrometry;** Jenny Ellis; Kevin Kubachka; Joseph Caruso; *University of Cincinnati, Cincinnati , OH*

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ThP 422 **Improved Positive Mode Ionization Efficiency of Phosphopeptides by Use of Metal Adducts and Ion Pairing Reagents**; Hye Kyong Kweon; Kristina Hakansson; *The University of Michigan, Ann Arbor, MI*

ThP 423 **Characterization of the Phosphorylation States by HPLC ESI-MS and ESI-MS/MS of IRAK-4, A Key Regulatory Cell Signaling Kinase**; Marshall M. Siegel[12]; Wayne Stochaj[12]; Quing Yao[12]; Kerry Kelleher[12]; Vikram Rao[12]; *[1]Wyeth Research, Pearl River, NY; [2]Wyeth Research, Cambridge, MA*

ThP 424 **Characterizing the Phosphoproteome of Human Serum**; Ming Zhou; Haleem J. Issaq; Timothy D. Veenstra; *SAIC-Frederick, Frederick, MD*

ThP 425 **Ack1-mediated Phosphorylation of Androgen Receptor on a Quadrupole Linear Ion Trap and Its Implications to Prostate Cancer**; Maria Esteban Warren[1]; Nupam Mahajan[2]; Carol Parker[1]; Xian Chen[1]; H. Shelton Earp[2]; *[1]University of North Carolina, Chapel Hill, NC; [2]UNC Lineberger Comprehensive Cancer Center, Chapel Hill, NC*

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ThP 427 **Identification of Sites of Phosphorylation Of Human Nrf2 And Quantitative Analysis using Mass Spectrometry**; Yan Luo; Aimee L. Eggler; Dongting Liu; Ang Liu; Andrew D. Mesecar; Richard B. van Breemen; *University of Illinois College of Pharmacy, Chicago, IL*

ThP 428 **Isoelectric Point-based Phosphopeptide Enrichment Combined with nanoElectrospray Ionization Mass Spectrometry**; Chien-Wen Hung; Dieter Kuebler; Wolf D. Lehmann; *German Cancer Research Center, Heidelberg, Germany*

ThP 429 **Identification of Phosphorylation Sites on Filamin A Protein (from Normal and TRAP-Activated Platelets) using RP-LC-MS/MS Analysis and Fe (III) IMAC**; Erin D Jeffery[1]; Boris I Ratnikov[2]; Mark H. Ginsberg[3]; Donald F. Hunt[1]; *[1]University of Virginia, Charlottesville, VA; [2]Burnham Institute for Medical Research, La Jolla, CA; [3]University of California, San Diego, San Diego, CA*

ThP 430 **Phosphorylation of 12S Globulin (Cruciferin) in Wild Type and abi1-1 Mutant Arabidopsis Thaliana Seeds**; Lianglu Wan[1]; Andrew RS Ross[1]; Jingyi Yang[1]; Dwayne D Hegedus[2]; Allison R Kermode[3]; *[1]National Research Council of Canada, Saskatoon, Canada; [2]Agriculture and Agri-Food Canada, Saskatoon, Canada; [3]Simon Fraser University, Burnaby, Canada*

ThP 431 **Toward Phosphoproteome Profiling using Hydroxy Acid-Modified Metal Oxide Chromatography Coupled with NanoLC-MS/MS**; Naoyuki Sugiyama[1]; Sumiko Ohnuma[2]; Yutaka Kyono[3]; Yasuyuki Igarashi[2]; Kosaku Shinoda[1]; Takeshi Masuda[2]; Akihiro Nakamura[2]; Masaru Tomita[2]; Yasushi Ishihama[2]; *[1]Human Metabolome Technologies, Inc., Tsuruoka, Japan; [2]Institute for Advanced Biosciences, Keio Universit, Tsuruoka, Japan; [3]GL Sciences Inc., Iruma, Japan*

ThP 432 **Identification of Myb-Binding Protein 1a (MYBBP1A) as a Novel Substrate for Aurora Kinases**; Claudia Perrera; Sonia Troiani; Riccardo Colombo; Laura Gianellini; Michele Modugno; Patrizia Carpinelli; Barbara Valsasina; Luisa Rusconi; *Nerviano Medical Sciences, Nerviano (MI), Italy*

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ThP 433 **A Systematic Proteomics Approach for Identifying Kinase Substrates using MS**; Shu-hui Chen; Sheng-Yu Huang; Mei-Ling Tsai; Guan-Yuan Chen; Chin-Jen Wu; *National Cheng Kung University, Tainan, Taiwan*

ThP 434 **In-Depth Analysis of the HeLa Phosphoproteome using Specific Phosphoprotein Purification Chromatography and MALDI Chip Based IMAC Phosphopeptide Enrichment**; Marcia Armstrong[1]; Udo Roth[2]; Karen Kowalewski[2]; Christoph Menzel[2]; Christopher Belisle[1]; Kerstin Steinert[2]; *[1]Qiagen Sciences, Germantown, MD; [2]Qiagen GmbH, Hilden, Germany*

ThP 435 **Direct Quantitation of Site Specific Tyrosine Phosphorylation in Activated High Affinity IgE Receptors by Electrospray LC/MS**; Peter S. Backlund[1]; Toshiyuki Yamashita[2]; Juan Rivera[2]; *[1]NICHD, National Institutes of Health, Bethesda, MD; [2]NIAMS, National Institutes of Health, Bethesda, MD*

ThP 436 **The Application of Nanoelectrospray Mass Spectrometry on Phosphoprotein Analysis**; Nan Li; Fang Shen; Yong Seok Choi; Sarah L. Gaffen; Troy D. Wood; *SUNY at Buffalo, Buffalo, NY*

ThP 437 **Mapping Differential Phosphorylation Patterns of the Cell Cycle Checkpoint Protein Chk-2**; Michael D. Ward; Cindy Guo; Saurub Gupta; Kimberly Fryrear; Ali Haoudi; O. John Semmes; *Eastern Virginia Medical School, Norfolk, VA*

ThP 438 **Methyl Esterification of Peptides Improves the Isolation of Phosphorylated Peptides from Titanium Dioxide**; Eric Simon; Matthew A. Young; Philip C. Andrews; *University of Michigan, Ann Arbor, MI*

ThP 439 **ABRF-sPRG 2007 Study: Development and Evaluation of a Phosphoprotein Standard Mix**; Jeffrey A. Kowalak[1]; Philip C. Andrews[2]; David Arnott[3]; Mary Ann Gawinowicz[4]; William S. Lane[5]; Kathryn S. Lilley[6]; Rachel R. Ogorzalek Loo[7]; Larry Martin[8]; Steven E. Stein[9]; *[1]National Institute of Mental Health, Bethesda, MD; [2]University of Michigan School of Medicine, Ann Arbor, MI; [3]Genentech, Inc., So. San Francisco, CA; [4]Columbia University, New York, NY; [5]Harvard University, Cambridge, MA; [6]Cambridge University, Cambridge, UK; [7]University of California, Los Angeles, CA; [8]East-West University, Chicago, IL; [9]National Institute of Standards and Technology, Gaithersburg, MD*

ThP 440 **A Novel Strategy to Quantitatively Analyze the Phosphoproteomic Response of Muscle to Glucocorticoids;** Erica Reeves; Zohra Olumee-Shabon; Yetrib Hathout; Eric Hoffman; *Children's National Medical Center, Washington, DC*

ThP 441 **Novel Protein Kinase A-mediated Endothelial Cell Myosin Light Chain Kinase Phosphorylation Sites using Data Dependent Nano-LC/MS/MS Mass Spectrometry Method**; Jing Zhao[1]; Sara M. Camp[1]; Eddie T. Chiang[1]; Alexander Schilling[2]; Steven M. Dudek[1]; Joe G.N. Garcia[1]; *[1]University of Chicago, Chicago, IL; [2]University of Illinois Chicago, Chicago, IL*

ThP 442 **Functionalized Surfaces for on MALDI Target Phosphopeptide Capture and Analysis**; Mohammed Kajjout; Mohammed Kajjout; Caroline Tokarski; Christian Rolando; Séverine Le Gac; *Univ. des Science/Tech de Lille, Villeneuve d'Ascq, France*

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ThP 443 **Intact Membrane Protein Purification and Analysis using Supercritical Fluid Chromatography and Mass Spectrometry**; Xu Zhang; Mark Scalf; Michael Westphall; Lloyd Smith; *UW-Madison, Madison, WI*

ThP 444 **Development of Methods to Profile Cytochrome P450s from Normal and Tumour Tissues**; Chris Sutton; Laurence Patterson; *Institute of Cancer Therapeutics, Bradford, United Kingdom*

ThP 445 **Elevated Temperature Facilitates Shotgun Analysis of Membrane Proteins**; Anna E Speers; Christine C Wu; *University of Colorado School of Medicine, Aurora, CO*

ThP 446 **A Proteomic Approach Based on Ion Exchange Beads for Membrane Protein Analysis**; Jianjun Zhai; Zhenyu Huang; Li Liu; Haining Zhu; *University of Kentucky, Lexington, KY*

ThP 447 **On-Column Enrichment of Hydrophobic CYP450 Proteins in HPLC Fractionation of Mouse Microsomes Prior to Protein Digestion and Nanospray-LC/MSMS analysis**; Witold M. Winnik; Pedro Ortiz; *US EPA, RTP, NC*

ThP 448 **Comparison of Acid-Labile and Traditional Detergents for Membrane Solubilization and Digestion of Membrane Proteins**; Adele Blackler[1]; Michael MacCoss[2]; Christine Wu[1]; *[1]University of Colorado HSC, Aurora, CO; [2]University of Washington, Seattle, WA*

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ThP 450 **Rapid HPLC and LC-MS Methods for the Analysis of p14 Fusion-Associated Small Transmembrane (FAST) Protein**; Reno Nguyen[1]; Roberto de Antueno[2]; Roy Duncan[2]; *[1]Grace Davison, Hesperia, CA; [2]Dalhousie University, Nova Scotia, Canada*

ThP 451 **LC-MS/MS Compatible Separation of Membrane Proteins in Solution Using Interval Zone Free-Flow Electrophoresis**; Mikkel Nissum; *BD Diagnostics, Martinsried, Germany*

ThP 452 **Membrane Protein Analysis Using Lipid-Based Protein Immobilization Technology**; Tasso Miliotis[1]; Anders Karlsson[2]; Max Davidson[2]; Jenny Wikström[2]; *[1]AstraZeneca R&D Molndal, Molndal, Sweden; [2]Nanoxis, Göteborg, Sweden*

ThP 453 **Quantitative ESI MS/MS Lipid Analysis of Cytochrome c Oxidase Purified from Wild-Type and Cardiolipin-Deficient Rhodobactor sphaeroides**; Xi Zhang; Carrie Hiser; Shelagh Ferguson-Miller; Gavin Reid; *Michigan State University, East Lansing, MI*

PROTEOMICS: CANCER BIOMARKERS II
454 - 472

ThP 454 **Comparative Proteomic Analysis of Healthy Individuals and Breast Cancer Patient Sera by Two-Dimensional Liquid Chromatography-Tandem Mass Spectrometry**; Yuening Zhang; Iveta Klouckova; Yehia Mechref; Milos V. Novotny; *Indiana University, Bloomington, IN*

ThP 455 **Comprehensive Proteomic Profiling of Human Pancreatic Cancer Duct Fluid (Juice) using 1D-Gel-, OFFGEL- and HPLC-Chip-MS Technology**; Vadiraja B. Bhat[1]; Rebecca Wiatrek[1]; Christopher Thompson[1]; Mohsen Shabahang[1]; Arundhati Rao[1]; Alexzander A. Asea[1]; *[1]Scott & White Memorial Hospital, Temple, TX; [2]Texas A&M Health Science Center, Temple, TX*

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ThP 456 **Protein Profiling of Formalin-Fixed Paraffin-Embedded Pediatric Brain Stem Glioma**; Javad Nazarian; Eric P. Hoffman ; Rita-Maria Santi; Tobey J. MacDonald; Yetrib Hathout; *Children's National Medical Center, Washington , DC*

ThP 457 **Proteomic Analysis iof Markers Associated with Tumor Stage in Ovarian Serous Tissues using MALDI-QIT-TOF-MS**; Yanfei Wang[1]; Kathleen R. Cho[1]; Fan Xiang[2]; David M. Lubman[1]; *[1]University of Michigan, ann arbor, MI; [2]Shimadzu, Pleasanton, CA*

ThP 458 **Two-Dimensional Separation and nano-ESI Ion Trap Analysis on Pancreatic Cancer Stem Cells**; Lan Dai; *Univ of Michigan, Ann Arbor, MI*

ThP 459 **Proteomic Profile of Lymph in Metastatic Breast Cancer**; Catherine Riley[1]; Jiri adamec[1]; Xiang Zhang[1]; Elwood Walls[2]; Charles Buck[1]; Sulma Mohammed[2]; *[1]Bindley Bioscience Center Purdue University, West Lafayette , IN; [2]Purdue University, West Lafayette, IN*

ThP 460 **Improving the Detection and Quantitation of Protein Expression Changes in Mucinous and Serous Pancreatic Cystic Neoplasms;** Puneet Souda; James J. Farrell; Babak Hassanzadeh; Ali Ammar; Kym F. Faull; Julian P. Whitelegge; *University of California Los Angeles, Los Angeles, CA*

ThP 461 **Tissue Proteomic Analysis of Low and High Metastatic Potential Intermediate Risk Stage I Endometrial Cancer**; Brian L. Hood[1]; Julie M. Oliver[2]; Susan E. Abbatiello[1]; David A. Lucas[1]; Manda J. Welsh[1]; William L. Bigbee[1]; George L. Maxwell[2]; Thomas P. Conrads[1]; *[1]University of Pittsburgh Cancer Institute, Pittsburgh, PA; [2]Walter Reed Army Medical Center, Washington, DC*

ThP 462 **Serum Proteomic Profiling of Stage 1 Invasive Ductal Breast Carcinoma Patients with PROFILE™ Biomarker Discovery System**; Kevin Dawson[1]; Daniel Tuse[1]; Robert L. Erwin[1]; Gordon R. Whiteley[2]; Earl L. White[1]; *[1]Predictive Diagnostics, Inc, Vacaville, CA; [2]SAIC-Frederick, Inc., Gaithersburg, MD*

ThP 463 **Probing the Different Secreated Proteins of Pancreatic Cancer Cells by ITRAQ**; Haijing Zhang; Liyan Lv; Yanchun Deng; Zhili Li; *Chinese Academy of Medical Sciences, Beijing, CHiNA*

ThP 464 **Analyzing the Proteome of Formalin Fixed Paraffin Embedded Tissues**; Rumen Bogoev; Mahbod R. Hajivandi; Xiquan Liang; Song-Hua Ke; Paul Predki; Marshall Pope; *Invitrogen, R & D, Carlsbad, CA*

ThP 465 **Proteins Identification from Formalin-Fixed Paraffin-Embedded Tissues**; Sheng-ta Tsai; *The Genomics Research Center, Academia Sinica., Taipei, Taiwan*

ThP 466 **The Use of Affinity Labeled Peptide Substrates for the Screening of Disease-Associated Protease Products (DAPPs)**; Nicolas A. Stewart[1]; DaRue A. Prieto[1]; Louis M. Consentino[2]; Haleem J. Issaq[1]; Timothy D. Veenstra[1]; *[1]SAIC-Frederick, Frederick, MD; [2]National Cancer Institute at Frederick, Frederick, MD*

ThP 467 **Applying Time-of-Flight Secondary Ion Mass Spectrometry with Cell Isolation Techniques to Aid in the Classification of Circulating Breast Tumor Cells**; Susan L. Fortson; Mark G. Knize; Kuang Jen Wu; Elena S.F. Berman; Ligang Wu; James S. Felton; Kristen S. Kulp; *Lawrence Livermore National Laboratory, Livermore, CA*

ThP 468 **Novel Method for Full-Length Soluble Protein Extraction from Formalin-Fixed Tissues for Immunological and Mass Spectrometry Analysis**; Sandra Nitschke[1]; Paige Weis[2]; Sven Andrecht[1]; Anja Seiler[1]; Uwe Michelsen[1]; Rob Hendriks[1]; Joerg von Hagen[1]; *[1]Merck KGaA, Darmstadt, Germany; [2]EMD Biosciences, Inc., Madison, WI*

ThP 469 **Biomarker Discovery from Trace Amounts of Cervical Tissue in Pre-Cancer Stages Using Laser Capture Microdissection of ThinPrep Slides and LC-MS**; Ye Gu[1]; Shiaw-lin Wu[1]; Jane Meyer[2]; William S. Hancock[1]; David Hanlon[2]; Barry L. Karger[1]; *[1]Northeastern University, Boston, MA; [2]Cytyc Corporation, Marlborough, MA*

ThP 470 **Biomarker Proteomics from Formalin-Fixed Paraffin-Embedded Liver and Breast Tissue Sections**; Laura Dubois[1]; Deidre Dalmas[2]; Marshall Scicchitano[2]; Daniela Schlatzer[3]; Mary Moyer[2]; Jack Liu[2]; Arthur Moseley[4]; Neal Cariello[2]; Marlene Darfler[5]; Kevin Blackburn[6]; *[1]Serenex, Durham, NC; [2]GlaxoSmithKline, RTP, NC; [3]Case Western Reserve University, Cleveland, OH; [4]Duke University, Durham, NC; [5]Expression Pathology, Gaithersburg, MD; [6]North Carolina State University, Raleigh, NC*

ThP 471 **Quantitative Proteomics to Decipher Secretome Changes of Breast Fibroblasts with Loss of TGF-beta Type II Receptor**; Baogang J Xu; Bojana Jovanovic; Mary E Aakre; Jennifer L Jennings; Andrew J Link; Harold L Moses; *Vanderbilt University, Nashville, TN*

ThP 472 **Discovery of Metastasis Factors from In-depth Proteome Analysis of Formalin Fixed Lung Carcinoma Tissues**; Toshihide Nishimura[1]; Takashi Hirano[1]; Tomoyo Nakano[2]; Maiko Ebisawa[2]; Masahiro Tsuboi[1]; Masaharu Nomura[1]; Hidetoshi Honda[1]; Masatoshi Kakihana[1]; Kouichi Yoshida[1]; Junichi Maeda[1]; Kiyonaga Fujii[3]; Yasuhiko Bando[2]; Kiyoshi Mukai[1]; Harubumi Kato[1]; *[1]Tokyo Medical University, Tokyo, Japan; [2]Biosys Technologies, Inc., Tokyo, Japan; [3]Hokkaido University, Sapporo, Japan*

PROTEOMICS: LABELING & AFFINITY
473 - 485

ThP 473 **Identification of the ß-Amyloid Epitope Recognized by the Protease Inhibitor Human Cystatin C (hCC) using Epitope Excision- Mass Spectrometry**; Paulina Juszczyk[1]; Gabriela Ioana Paraschiv[1]; Aneta Szymanska[2]; Zbigniew Grzonka[2]; Michael Przybylski[1]; *[1]University of Konstanz, Konstanz, Germany; [2]University of Gdansk, Gdansk, Poland*

ThP 474 **Protein Interaction Network Analysis with Mass Spectrometry**; James E. Bruce[1]; Haizhen Zhang[1]; Xiaoting Tang[1]; Natalia Zakharova[1]; Gerhard R. Munske[1]; Hye In Nam[1]; Li Yang[1]; Nikola Tolic[2]; Gordon A. Anderson[2]; *[1]Washington State University, Pullman, WA; [2]Pacific Northwest National Laboratory, Richland, WA*

ThP 475 **Epitope Identification of Llama Single Chain Anti-β Amyloid Antibodies using Proteolytic Epitope Extraction- and Excision- Mass Spectrometry**; Gabriela Ioana Paraschiv[1]; Paulina Juszczyk[1]; Cecile Vincke[2]; Serge Muyldermans[2]; Michael Przybylski[1]; *[1]University of Konstanz, Konstanz, Germany; [2]Vrije University of Brussel, Brussel, Belgium*

ThP 476 **Actvity Based Probe with a Diazo Cleavable Linker - a Novel Tool in Proteomic Analysis of Cysteine Proteases**; Marko Fonovic; Steven Verhelst; Matthew Bogyo; *Stanford University School of Medicine, Stanford, CA*

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ThP 477 **Chemical Tagging Methods for Analysis of Protein N-Terminus**; Hongying Zhong; Joseph Fernandez; Nagarajan Chandramouli; Haiteng Deng; *The Rockefeller University, New York, NY*

ThP 478 **A Novel Size-Label for Sorting Phosphopeptides for Mass Spectrometry**; Yu Shi; Xudong Yao; *Chemistry Department, University of Connecticut, Storrs, CT*

ThP 479 **Probing the Active Sites of Adenosine Nucleotide-Binding Proteins by Affinity Labeling and LC-MS/MS**; Haibo Qiu; Yinsheng Wang; *University of California, Riverside, Riverside, CA*

ThP 480 **Identification of Novel Protein Interactions in the eIF4E-mRNA Complex by Tandem Affinity Purification using a Chimeric Construct of eIF4E-calbindin-IgG**; Laurent Volpon[1]; Nadeem Siddiqui[1]; Michael J Osborne[1]; Ivan Topisirovic[1]; Mike Aguiar[2]; Katherine LB Borden[1]; Bernard F Gibbs[2]; *[1]Dept. of Pathology and Cell Biology, U de Montreal, Montreal, Canada; [2]Sheldon Biotechnology Center, McGill University, Montreal, Canada*

ThP 481 **Augmented Limits of Detection for Peptides with Hydrophobic Alkyl Tags (ALiPHAT)**; Jennifer L. Frahm; Adam M. Hawkridge; Daniel L. Comins; Ibrahim D. Bori; David C. Muddiman; *NC State University, Raleigh, NC*

ThP 482 **Click Chemistry as a Proteomic Approach to Identify Protein Targets of Thiol-Reactive Electrophiles**; Kripa Keerthi; Elizabeth B Burnette; Daniel C Liebler; *Vanderbilt University, Nashville, TN*

ThP 483 **Mass Defect Labeling of Tryptophan for Improving Protein Identification in Shotgun Proteomic Analyses**; Chunyan Li; Ryan M. Phillips; George F. Majetich; I. Jonathan Amster; *University of Georgia, Athens, GA*

ThP 484 **Application of the Cross-Linker Based Protein Interaction Reporter Technology to Saccharomyces cerevisiae**; Natalia L. Zakharova[1]; Gerhard R. Munske[1]; Gordon A. Anderson[2]; Nikola Tolic[2]; Xiaoting Tang[1]; James E. Bruce[1]; *[1]Washington State University, Pullman, WA; [2]Pacific Northwest National Laboratory, Richland, WA*

ThP 485 **Biotinylation and MS Analysis: A Combined Approach for the Identification of the Surface Exposed Residues of Hsp90**; Wendell P. Griffith[1]; Xueguang Lui[2]; Dwella M. Nelson[1]; Jennifer S. Isaacs[2]; Robert J. Cotter[1]; *[1]Johns Hopkins School of Medicine, Baltimore, MD; [2]Medical University of South Carolina, Charleston, SC*

PROTEOMICS: LOWER ORGANISMS
486 - 491

ThP 486 **Comparative Profiling of Proteins Associated with Aluminum Tolerance in Maize Root Tips by 2D-gel Electrophoresis/LC-MS/MS**; Yong Yang[1]; Sheng Zhang[2]; Theodore W Thannhauser[1]; *[1]USDA-ARS, US Plant, Soil & Nutrition Laboratory, Ithaca, NY; [2]Proteomics & Mass Spectrometry Core Facility, Corn, Ithaca, NY*

ThP 487 **Protein Reference Map of Thermoplasma Acidophilum and Implications for Macromolecular Complexes**; Na Sun; Florian Beck; Roland Wilhelm Knispel; Frank Siedler; Beatrix Scheffer; Stephan Nickell; Wolfgang Baumeister; Istvan Nagy; *Max-Planck-Institute for Biochemistry, D-82152 Martinsried, Germany*

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ThP 488 **Proteome Profile of *Danio rerio* (Zebrafish) Gill Using 2D LC-ESI QTOF MS/MS**; Andrea G. De Souza; Tyson MacCormack; Greg G. Goss; Liang Li; *University of Alberta, Edmonton, Canada*

ThP 489 **Identification of Mycobacteria and Mycobacteria Biomarker Proteins by Novel Biological Sample Preparation Combined with Tandem Mass Spectrometry**; Miquel D. Antoine[1]; Nathan Hagan[1]; Timothy Cornish[1]; Justin Hettick[2]; Plamen A. Demirev[1]; *[1]JHU-APL, Laurel, MD; [2]CDC, NIOSH, Morgantown, WV*

ThP 490 **Proteomic Analysis of Lysine Acetylation in Yeast**; Junmei Zhang; Sung Chan Kim; Yue Chen ; Yingming Zhao; *University of Texas Southwestern Medical Center, Dallas, TX*

ThP 491 **Large Scale Label-Free and cICAT-based Comparative Proteomics of an Arabidopsis Clp Protease Mutant; Consequences for Leaf Development and Protein Homeostasis**; Paul Dominic B. Olinares; Giulia Friso; Boris Zybailov; Andrea Rudella; Qi Sun; Klaas J. van Wijk; *Plant Biology, Cornell University, Ithaca, NY*

PROTEOMICS: QUANTITATION TECHNIQUES II
492 – 518 and 533

ThP 492 **Delving Deeper into Proteomes to Generate Quantitative Data;** Julia Smith; Isaac Matus; Andrew Greene; *Medical College of Wisconsin, Milwaukee, WI*

ThP 493 **A Comparison of Separation Strategies for Proteomic Samples Labeled with iTRAQ™ Reagents at the Protein Level;** Matthew Willetts[1]; Pete Ulintz[2]; Marjorie Minkoff[1]; R Marks[2]; Philip Andrews[2]; *[1]Applied Biosystems, Framingham, MA; [2]University of Michigan, Ann Arbor, MI*

ThP 494 **Identification and Quantification of P53 Hot Spot Mutations by using Restriction Fragment Mass Polymorphism(RFMP) and Absolute QUAntification of protein(AQUA)**; Joo Young Bang; *Konkuk Univtsty, Seoul, South Korea*

ThP 495 **Differential Protein Expression of Human Vitreous Fluids Using 8-plex iTRAQ Reagent Labeling and nanoLC MALDI-TOF/TOF Mass Spectrometry**; Ruiqing Qiu[1]; Marjorie Minkoff[1]; Philip Ross[1]; Matthew Willetts[1]; Judy Quong[2]; *[1]Applied Biosystems, Framingham, MA; [2]Thomas Jefferson University, Philadelphia, PA*

ThP 496 **Spectral Indexing Reveals Quantitative Differences Between Endothelial Cell Caveolae and Plasma Membrane Proteomes**; Noelle M Griffin; Jingyi Yu; Anne Simonson; Phil Oh; Yan Li; Brea Midthune; Sabrina Shore; Halina Witkiewicz; Jan E Schnitzer; *Sidney Kimmel Cancer Center, San Diego, CA*

ThP 497 **Development of Quantitative Monitoring Method for the Detection of Mutations in Bcr-Abl from Chronic Myeloid Leukemia;** Jung Ok Park; *Konkuk University, Seoul, South Korea*

ThP 498 **A Novel Integrated Method Coupling 2D GeLC-MS/MS with Protein Abundance Index for Improved Accuracy in 2D Gel-based Comparative Proteomics**; Yong Yang[1]; Theodore Thannhauser[1]; Li Li[1]; Sheng Zhang[2]; *[1]US Plant Soil and Nutrition Laboratory, Cornell U, Ithaca, NY; [2]Proteomics and Mass Spectrometry, Cornell Univ, Ithaca, NY*

ThP 499 ***In vitro* Synthesis of Stable-Isotope Labeled Proteins for Use as Internal Standards in Quantitative Mass Spectral Measurements of Clinical Proteins**; Johanna

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E. Camara; Faith A. Hays; Nathan G. Dodder; David M. Bunk; *NIST, Gaithersburg, MD*

ThP 500 **Antibody-Independent Quantitation of Cellular Phosphopathways**; Melissa Dix; Francesca Zappacosta; Michael Huddleston; Dean McNulty; Andy West; Ceri Lewis; Alastair Reith; Roland S. Annan; *GlaxoSmithKline, King of Prussia, PA*

ThP 501 **Investigation Into Changes into the Spheroplast and Mitoproteome of Saccharomyces Cerevisiae Induced by Recombinant AOX using SILAC**; Rowan Laura Dobson[1]; *[1]Laboratory of Mass Spectrometry, Liège, Belgium; [2]Laboratory of Bioenergetics, Liège, Belgium*

ThP 502 **Investigation on the Role of Huntingtin Phosphorylation in the Pathogenesis of Huntington's Disease**; Xin Cong; Birgit Schilling; Juliette Gafni; Cameron Torcassi; Lisa M. Ellerby; Bradford W. Gibson; *Buck Institute for Age Research, Novato, CA*

ThP 503 **Comparative Study of Five Methods for Quantitative Proteomics; cICAT, iTRAQ, ICPL, ^{18}O, and Acetylation, using Tandem Mass Spectrometry;** Monica H. Elliott; Candice Madalena; Darryl Hardie; Leanne Ohlund; Derek Smith; Christoph H. Borchers; *University of Victoria/Genome BC Proteomics Centre, Victoria, Canada*

ThP 504 **Tackling the Challenge of Quantifying Co-Migrating Proteins in Two Dimensional Gel Electrophoresis-Based Proteome Analysis;** Maarten Dhaenens; *Ghent University, Ghent, Belgium*

ThP 505 **Absolute SILAC: Absolute Quantitation of Proteins in Complex Mixtures using Recombinant Stable Isotope Labeled Proteins**; Stefan Hanke; Hüseyin Besir; Dieter Oesterhelt; Matthias Mann; *Max-Planck-Institute for Biochemistry, Munich, Germany*

ThP 506 **Absolute Quantification of Two Biomarkers of GH Abuse using LC-ID-MS/MS**; Stéphanie Kirsch; Joelle Widart; Edwin De Pauw; *University of Liege, Liege, Belgium*

ThP 507 **Directly Identify Protein N-Terminal Residues by Mass Spectrometry and Its Potential Applications in Protein-Level Comparative Proteomics**; Jue-liang Hsu; Ding-Tzai Li; Fong-Ku Shi; *Life Science Business Unit of CSUN MFG. Ltd., Tainan county, Taiwan*

ThP 508 **An Approach for Absolute Quantification of Therapeutic Proteins in Plasma Using 2D-SPE Coupled with LC-MS/MS**; Ziping Yang; Michael Hayes; Xinping Fang; Francis Tse; *Novartis Pharmaceuticals Corporation, East Hanover, NJ*

ThP 509 **Quantitative Analysis of Yeast Protein Expression using the Protein iTRAQ&trade Reagent Strategy;** Patrick Pribil[1]; Shixin Sun[2]; Marjorie Minkoff[2]; *[1]MDS Sciex, Concord, Canada; [2]Applied Biosystems, Framingham, MA*

ThP 510 **A New Strategy for Quantitative Proteomic Analysis of Organisms with Unsequenced Genomes**; Tomas Rejtar; Marina Hincapie; John T. Oldham; Carolyn W.T. Lee-Parsons; Jennifer G. Dy; Barry L. Karger; *Northeastern University, Boston, MA*

ThP 511 **Quantitative Proteomic Analysis of Oral HPV Lesions from HIV Patients using Mass Spectrometry**; Marlene M. Darfler[1]; Mohit R. Jain[2]; Tong Liu[2]; Jun Hu[2]; Valere Fitzhugh[2]; Joseph Rinaggio[3]; Hong Li[2]; *[1]Expression Pathology Inc., Gaithersburg, MD; [2]UMDNJ-New Jersey Medical School, Newark, NJ; [3]UMDNJ-New Jrsey Dental School, Newark, NJ*

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ThP 512 **Relative Protein Quantification by Isobaric SILAC with Immonium Ion Splitting (ISIS)**; Mara Colzani[1]; Alexandra Potts[1]; Patrice Waridel[1]; Frederic Schutz[2]; Manfredo Quadroni[1]; *[1]University of Lausanne, Epalinges, Switzerland; [2]Swiss Institute of Bioinformatics, Lausanne, Switzerland*

ThP 513 **Evaluation of SISCAPA; an Automated Targeted Biomarker Enrichment and Validation Platform;** Angela Jackson[1]; Derek Smith[1]; Jamie Thomas[2]; Terry Pearson[2]; Christoph Borchers[1]; Leigh Anderson[3]; *[1]University of Victoria Genome BC Proteomics Centre, Victoria, Canada; [2]University of Victoria, Victoria, Canada; [3]Plasma Proteome Institute, Washington, DC*

ThP 514 **Combining Quantitative Proteomics by Stable Isotope Labeling with Top-Down Mass Spectrometry**; Leonie F. Waanders; Stefan Hanke; Jesper V. Olsen; Matthias Mann; *Max Planck Institute for Biochemistry, Martinsried, Germany*

ThP 515 **Quantitative Analysis of Mice Synaptic Membranes with 8-plex iTRAQ Reagents**; Roel C. van der Schors[1]; Huibert D. Mansvelder[1]; Rhiannon M Meredith[1]; Oleg Klychnikov[1]; Sabine Spijker[1]; Jianru Stahl-Zeng[23]; Brian Williamson[23]; August B. Smit[1]; Ka Wan Li[1]; *[1]CNCR, Vrije Universiteit, Amsterdam, Netherlands; [2]Applied Biosystems, Darmstadt, Germany; [3]Applied Biosystems, Framingham, MA*

ThP 516 **Identification of Biological Marker Proteins in the Patient Serum with a Pregnancy Induced Hypertension (PIH) using Proteomic Approach**; Ji Sook Park; *Konkuk Univ., Seoul, South Korea*

ThP 517 **Use of DNA Ladders for Reproducible Protein Fractionation by SDS-PAGE for Quantitative Proteomics**; Guoan Zhang[1]; David Fenyo[2]; Thomas A. Neubert[1]; *[1]New York University School of Medicine, New York, NY; [2]The Rockefeller University, New York, NY*

ThP 518 **Comprehensive Quantitative Analyses on Protein Dynamics of The Human Pathogen *Staphylococcus aureus* by the Implementation of an 8-plex iTRAQ™ Labeling**; Susanne Wolff[1]; Jianru Stahl-Zeng[2]; Michael Hecker[1]; Dörte Becher[1]; *[1]University, Greifswald, Germany; [2]Applied Biosystems, Darmstadt, Germany*

Please go to 533 for the poster below,

ThP 533 **A Fast Method for Determination of Human Insulin and Its Deamination Product by Electrospray Mass Spectrometry**; Teerapat Rojsajjakul; Kelsey D. Cook; *University of Tennessee, Knoxville, TN*

PROTEOMICS: BIOCHEMISTRY (GEL BASED)
519 - 532

ThP 519 **S100b Induced Chromatin Remodeling at the Human Cyclooxygenase-2 (COX-2) Promoter;** Thomas K. Bane; Narkunaraja Shanmugam; Yunan Miao; Roger Moore; Arthur D. Riggs; Rama Natarajan; Terry D. Lee; *City of Hope Nat'l Med Center, Duarte, CA*

ThP 520 **Composition of the Synaptic PSD-95 Complex**; Ayse Dosemeci[1]; A. James Makusky[2]; Ewa Jankowska-Stephens[2]; Xiaoyu Yang[2]; Douglas J. Slotta[2]; Sanford P. Markey[2]; *[1]NINDS, NIH, Bethesda, MD; [2]NIMH, NIH, Bethesda, MD*

ThP 521 **Proteomics in a Unique Fish Melanoma Model using 2D PAGE, DIGE, and COFRADIC**; Katrin Denker; Albert Sickmann; *Rudolf Virchow Center, Wuerzburg, Germany*

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ThP 522 **Proteomics of Toxoplasma Gondii Tubulin**; Hui Xiao; Pascal Verdier-Pinard; Berta Burd; Fayun Che; Hongshan Zhang; Kami Kim; Louis M. Weiss; Ruth H. Angeletti; *Albert Einstein College of Medicine, Bronx, NY*

ThP 523 **Identification of the Interacting Proteins to the Noradrenergic Neuron Specific Transcription Factor, Phox2, by ESI-Ion-Trap MS and ChIP Analysis**; Jinkyu Lim; Ilyn L. Santos; Hyun-Soo Choi; *Kyungpook University, Daegu, South Korea*

ThP 524 **Analysis of Protein-Protein Interactions within EphB2-NG108 Cells in Response to EphrinB1-Fc Stimulation by Blue Native PAGE and Mass Spectrometry**; Costel C. Darie; Daniel S. Spellman; Vivekananda Shetty; Wen Chen; Thomas A. Neubert; *Skirball Institute/New York University, New York, NY*

ThP 525 **Proteomic Analysis Suggests That the Bystander Effect in Trout Gill is Protective**; Jiaxi Wang[1]; Richard W. Smith[2]; Carmel E. Mothersill[2]; Colin B. Seymour[2]; M. Kirk Green[1]; *[1]MRCMS, McMaster University, Hamilton, Canada; [2]McMaster University, Hamilton, Canada*

ThP 526 **Cdc48, the Homolog of Mammalian p97, Mediates Aggresomal Deposits in Yeast PolyQ model**; Yan Wang[1]; Anatoli Meriin[2]; Michael Sherman[2]; Catherine Costello[1]; *[1]Boston University/ Mass Spectrometry Resource, Boston, MA; [2]Boston University, Boston, MA*

ThP 527 **Slippery when Translated: Extensive Programmed Ribosomal Frameshifting Revealed by Proteomics**; Rachel O. Loo[1]; Yanan Yang[2]; Housna Mouttaki[3]; Robert Gunsalus[1]; Joseph A. Loo[1]; Michael McInerney[3]; *[1]UCLA, Los Angeles, CA; [2]Agilent Technologies, Santa Clara, CA; [3]University of Oklahoma, Norman, OK*

ThP 528 **Integrated Time- and Dose-Resolved Proteomic, Redox Metabonomic, and Functional Analysis of the Cardioprotective Effects of Nitrite Treatment on the Heart**; David H. Perlman[1]; Selena Bauer[2]; Nathan S. Bryan[2]; Maria F. Garcia-Saura[2]; Chee C. Lim[2]; Bernadette O. Fernandez[2]; Mark E. McComb[1]; Catherine E. Costello[1]; Martin Feelisch[2]; *[1]Cardiovascular Proteomics Ctr., BUSM, Boston, MA; [2]Whitaker Cardiovascular Institute, BUSM, Boston, MA*

ThP 529 **A Proteomic Probing of the Protein Partners in Huntington's Disease Using a Novel BAC Transgenic Model of Disease**; Dyna I. Shirasaki[1]; Michelle Gray[2]; Tara K. Murphy[2]; X. William Yang[2]; Joseph A. Loo[1]; *[1]UCLA, Dept. of Chemistry and Biochemistry, Los Angeles, CA; [2]UCLA, Brain Research Institute, Los Angeles, CA*

ThP 530 **Neuroproteomic Analysis of Chronic Methamphetamine Treatment in Rat Cortex**; Firas Kobeissy[1]; Jean Lud Cadet[2]; Devon Graham[2]; Issa Isaac[3]; Neil Sharma[3]; Marjorie Chow[4]; Nicole Boyle[4]; Mark S Gold[1]; Kevin K K Wang[1]; *[1]University of Florida, Gainesville, FL; [2]Molecular Neuropsychiatry Branch/ NIDA, Baltimore, MD; [3]Genomic Solutions, Ann Arbor, MI; [4]Protein Core, Gainesville, FL*

ThP 531 **In Silico Prediction and LC-MS/MS Identification of the Outer Membrane Proteome of Actinobacillus Pleuropneumoniae**; Jacqueline Chung[1]; Chris Ng-Thow-Hing[1]; Lorne Budman[1]; John HE Nash[2]; Mario Jacques[3]; Robert Masse[4]; James W. Coulton[1]; Bernard F Gibbs[5]; *[1]Dept. of Microbiology and Immunology, McGill U, Montreal, Canada; [2]Inst. for Biological Sciences, NRC, Ottawa, Canada; [3]Dept. de pathologie et microbiologie, St. Hyacinthe, Canada; [4]MDS Pharma Services, Montreal, Canada; [5]Sheldon Biotechnology Center, Montreal, Canada*

ThP 532 **Protein Synthesis is an Immediate Early Response to EGFR Signaling**; Tim Wehr[1]; Naina Shastri[2]; Nora Bayani[2]; Ning Liu[1]; Aran Paulus[1]; Richard M. Neve[2]; *[1]Bio-Rad Labs, Hercules, CA; [2]Lawrence Berkeley National Laboratory, Berkeley, CA*

PROTEOMICS: SAMPLE PREPARATION & METHODS (GEL BASED)
534 - 544

ThP 534 **Importance of Sample Preparation for MS Analysis of Protein Complexes Purified by Blue Native Gels**; Mahbod R. Hajivandi; Tom Beardslee; Xiquan Liang; Paul Predki; Marshall Pope; *Invitrogen, R & D, Carlsbad, CA*

ThP 535 **Plasma Protein and Post Translational Modification Study on New 2D Electrophoresis Gels Exhibiting Outstanding Properties for MS Analysis**; Caroline Tokarski[1]; Florence Guerard[1]; Olivia Guerre[1]; Anatoli Tassis[2]; Christian Rolando[1]; *[1]Univ. des Science/Tech de Lille, Villeneuve d'Ascq, France; [2]Elchrom, Cham, Switzerland*

ThP 536 **An In-gel Derivatization Method for the Identification of Proteolytic Cleavage Sites**; J. Isabella Zhang[1]; Jingwei Li[1]; N. Naomi Jayasuriya[1]; Patrick D. Haller[1]; Mari Enoksson[2]; Guy Salvesen[2]; W. Andy Tao [1]; *[1]Purdue University, West Lafayette, IN; [2]Burnham Institute, San Diego, CA*

ThP 537 **Proteomic Profiling of Fructose-Induced Hepatic Steatosis**; Lihe Zhang; Steven Ringquist; Massimo Trucco; Henry Dong; *Children's Hospital of Pittsburgh, Pittsburgh, PA*

ThP 538 **Proteomic Analysis of Mucin Glycoproteins and Their Complexes After Agarose Gel Electrophoresis;** Mehmet Kesimer; Genevieve DeMaria; John K. Sheehan; *University of North Carolina, Chapel Hill, NC*

ThP 539 **Reversed Gel Filtration for the Sample Preparation;** Ashok K. Shukla; Mukta Shukla; *Glygen Corp., Columbia, MD*

ThP 540 **Aging and the Insolubleome: Identifying SDS-insoluble Proteins from Brains of Aging and Neurodegenerative Disease Mouse Models by Mass Spectrometry;** Birgit Schilling; Aaron Miller; John P. Miller; Emily A. Gaman; Lisa M. Ellerby; Bradford W. Gibson; Robert E. Hughes; *Buck Institute for Age Research, Novato, CA*

ThP 541 **A Simple Method To Remove Salt From IPG Strips Prior To Isoelectric Focusing;** Carrie J. Heppelmann; Linda M. Benson; H. Robert Bergen, III; *Mayo Foundation, Rochester, MN*

ThP 542 **Three-layer "Sandwich" Gel Electrophoresis: A Novel Method for Salt Removal and Protein Concentration**; Ting Liu; Angela M. Martin; Anthony P Sinai; Bert C Lynn; *Univ. of Kentucky, Lexington, KY*

ThP 543 **Size-Based Peptide Sorting: Gel Mobility Study of Cysteinyl Tryptic Peptides**; Alexis Ramos; Xudong Yao; *University of Connecticut, Storrs, CT*

ThP 544 **To See the Unseen: Specific Localization of Proteins using Score Imaging?**; Paulo Marcelo[1]; Arnaud Bruneel[2]; Iman Haddad[1]; Bruno Baudin[2]; Jean Rossier[1]; Joelle Vinh[1]; *[1]ESPCI/CNRS, Paris, France; [2]Hopital Saint-Antoine, Paris, France*

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